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NATIONAL MUSEUM OF SCIENCE
AND ART, DUBLIN.

Irene D. Andrew
Dublin

GENERAL GUIDE TO THE ART
COLLECTIONS.

Part VI.—METAL WORK.

Chapter V.—IRON.

Compiled by
M. S. D. WESTROPP, M.R.I.A.



DUBLIN:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
BY CAHILL & CO., LTD., 40 LOWER ORMOND QUAY.

1912.

Price Twopence.



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PART VI.—METAL WORK.

CHAPTER V.

PREFACE.

THIS chapter contains descriptions of the examples of Ironwork, together with some general information concerning its manufacture from the earliest times, compiled from standard books on the subject, and especially from the South Kensington Handbook, by J. Starkie Gardner.

The photographs for the half-tone blocks to illustrate this chapter of the guide were taken in the Photographic Section of the Museum, and the blocks themselves were made in Dublin.



CHAPTER V.

IRON.

INDEX.

The register number will be found on the label attached to each specimen in the Collection, and in the Index the page on which each specimen is described is given opposite its register number.

	PAGE.		PAGE.
1878.		1883—con.	
14-78,	23	443-83,	38
23-78,	33	444-83,	39
24-78,	33	445-83,	38
25-78,	33	446-83,	37
26-78,	33	650 and 651-83,	38
27-78,	33	723A-83,	28
28-78,	33		
29-78,	33	1884.	
		33-84,	37
		208-84,	11
1880.		439 and 440-84,	29
853 to 856-80,	27	441 and 442-84,	29
859-80,	27	443 and 444-84,	29
871-80,	25	445-84,	29
871A-80,	25	446-84,	33
872-80,	25	447-84,	29
873-80,	25	448-84,	33
874-80,	26	449-84,	30
875-80,	26	450-84,	30
918-80,	27	451 and 452-84,	29
		453 and 454-84,	29
1881.		455 and 456-84,	29
2227-81,	30	457-84,	33
		458-84,	30
1882.		925-84,	11
3997-82,	28	926-84,	11
		927-84,	11
1883.		928-84,	11
213-83,	33		
217-83,	32	1885.	
439-83,	37	88-85,	11
441-83,	38	489 and 490-85,	12
442-83,	38	492-85,	12

1886	PAGE.	1894—con.	PAGE.
163-86, . . .	18	600-94, . . .	22
164-86, . . .	18	874-94, . . .	34
409-86, . . .	11	875-94, . . .	12
410-86, . . .	11	878-94, . . .	12
411-86, . . .	11	880-94, . . .	12
412-86, . . .	11		
413-86, . . .	11	1895.	
		264-95, . . .	31
1887.		289-95, . . .	19
469-87, . . .	27		
495-87, . . .	34	1896.	
496-87, . . .	34	136-96, . . .	41
505-87, . . .	8	142-96, . . .	22
512-87, . . .	34	165-96, . . .	13
		187-96, . . .	14
1888.		192-96, . . .	15
347-88, . . .	44	194-96, . . .	18
1264-88, . . .	11	200-96, . . .	16
		204-96, . . .	15
1889.		205-96, . . .	43
274-89, . . .	34	207-96, . . .	15
275-89, . . .	34	208-96, . . .	16
276-89, . . .	34	209-96, . . .	16
		210-96, . . .	16
1890.		211-96, . . .	16
302-90, . . .	47	212-96, . . .	16
943 to 950-90, . . .	37	213-96, . . .	17
		214-96, . . .	17
1891.		215-96, . . .	17
450-91, . . .	13	216-96, . . .	17
747-91, . . .	47	217-96, . . .	17
		218-96, . . .	16
1892.		219-96, . . .	17
17-92, . . .	38	220-96, . . .	15
178-92, . . .	11	221-96, . . .	15
530-92, . . .	42	222-96, . . .	15
643-92, . . .	11	223-96, . . .	18
		224-96, . . .	15
1893.		225-96, . . .	18
288-93, . . .	23	226-96, . . .	18
289-93, . . .	23	227-96, . . .	15
		228-96, . . .	19
1894.		229-96, . . .	19
558-94, . . .	22	230-96, . . .	9
599-94, . . .	22	231-96, . . .	9

INDEX.

V.

1896— <i>con.</i>		PAGE.	1902— <i>con.</i>		PAGE.
367-96,	.	19	509-02,	.	42
368-96,	.	19	604-02,	.	42
369-96,	.	27			
			1903.		
	1898.		605-03,	.	32
211-98,	.	12	606-03,	.	32
214-98,	.	12	607-03,	.	32
			608-03,	.	32
	1899.		609-03,	.	32
98-99,	.	31	611-03,	.	32
123-99,	.	10	613-03,	.	28
135-99,	.	9	646-03,	.	23
176-99,	.	7	647-03,	.	23
227-99,	.	47	652-03,	.	48
228-99,	.	47	No. 265,	.	27
229-99,	.	47			
230-99,	.	47	1904.		
231-99,	.	47	118-04,	.	34
232-99,	.	47	119-04,	.	34
233-99,	.	47	120 and 121-04,	.	34
234-99,	.	47	277-04,	.	43
235-99,	.	48	419-04,	.	10
529-99,	.	9	632-04,	.	23
			633-04,	.	23
	1900.		634-04,	.	23
10A-00,	.	23			
	1901.		281-06,	.	34
687-01,	.	43			
688-01,	.	43	1908.		
689-01,	.	43	22-08,	.	10
690-01,	.	43	23-08,	.	10
			148A and B-08,	.	10
	1902.				
489-02,	.	40	332-10,	.	10
490-02,	.	21	333-10,	.	10
508-02,	.	42	564-10,	.	10

CHAPTER V.

IRON.

INTRODUCTORY.

Of all metals iron is the most important and most useful, and although it is so plentiful that its price is low and it lacks many of the qualities of the precious metals, yet it surpasses them all in utility. It may be said that the extraordinary advances in the mechanical arts and sciences of recent years are greatly due to the increased use of this metal.

In its fresh and clean metallic state it is of a steely grey colour, but as it rusts rapidly its real colour is seldom apparent.

Iron has seldom been used for statues, or similar works of art, for several reasons; it does not fuse so easily as bronze, and it corrodes so quickly that objects made of it and exposed to the open air soon lose their original outline. Crowns, crosses, and jewels of iron exist; but when art has been bestowed on iron, it is usually where strength is required in the object as well as beauty.

Iron is found in various rocks, but the richest and most important ores are those found in association with the coal measures, which supply the coal for smelting it. The quantity of ore mined annually in the British Islands is nearly twenty million tons.

The ores of iron have to be smelted in order to reduce them to a comparatively pure metallic state. This operation in early times was very simple, the process being to fill a closed or partly closed oven or hearth with the ore and charcoal, to ignite the latter and to aid combustion by the use of bellows, or by selecting an exposed situation and making holes in the furnace on the windward side. The ore in these furnaces was only reduced to a soft state, so that it had to be hammered to purify the metal. Very little is known of the processes used for reduction of the ores to the metallic state until comparatively recent times.

The erection of a shaft over the furnace, by increasing the draughts, converts it into a blast furnace, in which the iron is liquefied and run into moulds. It is supposed by some that the Greeks and Romans knew that iron

could be liquefied by heat, and that cast-iron was produced by them, but no objects of cast-iron of great antiquity exist. A cast-iron ornamental slab in Burwash Church, in Sussex, is said to date from the fourteenth century; but it was not until about the end of the eighteenth century that cast-iron was much used.

Cast-iron contains many impurities; but for wrought-iron greater purity is required. This is obtained by puddling, that is, the molten iron is boiled and stirred on a hearth or in a chamber until almost all impurities are burnt out by oxygen from the air. It is then hammered or rolled to make it into bar iron.

Steel, which is the third of the commercial forms of iron, is a connecting link between cast and wrought iron. It is impossible to trace its origin, though the manufacture of a kind of steel is described by a Chinese writer 400 B.C., and a similar process seems to have been used in Greece, and in mediæval times in Europe.

It was not till the year 1781 that it was known that the properties of steel depended on the percentage of carbon present in it, and not till after the middle of the nineteenth century that the processes of Bessemer and Siemens, now used in the manufacture of steel, were invented. These processes consist in melting the pig-iron in a furnace and blowing heated air through it until all impurities are burnt out. To this almost pure iron the requisite amount of carbon and manganese is added, and when thoroughly mixed, the resultant mass is cast steel.

THE EARLY HISTORY OF IRONWORK.

The date of the earliest use of iron is uncertain, for, unlike gold and bronze, iron rusts so rapidly that after a time only faint traces of it remain. The evidence of the objects themselves, as well as of tradition, proves that the knowledge of iron came later than that of gold and silver, but it was known perhaps three or four thousand years ago in a few of the most highly civilised countries, while most races were still in the age of bronze and copper, and some in the age of stone, as were the Australians when Europeans first came in contact with them, and as the Friendly Islanders still are. Perhaps the iron ore first utilised was obtained from meteorites, the falling of which is recorded many times in ancient history, and the discovery of the smelting of iron from its ore may have resulted from forest fires, as mentioned in Chinese history, if the records are authentic.

The working of iron in India dates from a very early period. The Aryan invaders who over-ran India about 1500 B.C., brought with them a well-developed iron industry, and they also found the indigenous races acquainted with the metal. Iron, and even perhaps a kind of steel, were largely exported from the district near the present Calcutta, and the iron called by Pliny "Sericum," and said to have come from China and to have been the best imported into Rome, may have come from India.

It is generally supposed that iron was not known in Egypt till about 1500 or 2000 B.C. It may have been used for cutting hard rocks, or this may have been done with bronze hardened in some peculiar manner, for the Peruvians, when discovered by Europeans, cut the hardest rock without the use of iron, and had no word in their language for it.

Most of the objects of iron found in Egypt date from the Roman occupation; under the Ptolomies statues were made of it, and from Egyptian inscriptions we learn that the Ethiopians possessed a knowledge of it.

Probably the use of iron was introduced into Greece from Asia; but nothing is known as to the time of its first appearance, though there are legendary records of its discovery in Crete about 1430 B.C. Though no iron work of the ancient Greeks remains at the present day, their literature indicates that they practised the arts of forging, polishing, inlaying, tempering, and casting iron; the last process is supposed to date from the fifth century B.C., and the hardening of iron by plunging it while hot into cold water is spoken of by Homer.

Iron, although used by the Greeks in the construction of chariots and implements of war and of agriculture, seems not to have been used so largely as bronze.

The Romans adopted the arts of Greece, and profited by the skill in metal work of the Etruscans. The Romans themselves did not manufacture iron until a comparatively late period, but imported it from Etruria, Styria and other places, and they seem to have made little artistic use of it, the ruins of Pompeii showing that iron in the first century A.D. was put to much the same uses as at the present day.

From their writers we learn that the use of iron was general in Northern Europe, when the Romans first became acquainted with its inhabitants. Gaul was perhaps the chief centre of metal work, and as early as 600 B.C., a colony in the South is said to have manufactured iron weapons, and probably from this source the art spread through the country. From the various objects discovered

in France, it is seen that the art of metal working had reached a very high standard before the Roman occupation, among other things, the art of plating and inlaying iron with gold and silver was known. Probably the skill, in metal work, of the inhabitants of Britain, was little inferior to that of the kindred races on the Continent, and during the Roman occupation large ironworks were established at Gloucester and other places.

Numerous objects found in Denmark and Scandinavia show that the metal workers' arts were, on the downfall of the Roman Empire, preserved and developed by the Northern races, who brought them back again into more southern regions.

BRITISH IRONWORK.

We have seen that the ancient inhabitants of the British Isles were very skilful in the working of metals; but by the invasions of the Saxons, Angles, Jutes and other tribes after the Roman occupation, progress in the arts was stopped for a time. As the Anglo-Saxons settled to peaceful pursuits, missionaries converted them to Christianity and churches were built, but probably, like the houses, of timber and perishable materials. Early in the seventh century A.D., the missions of the Irish, then known as Scots, influenced Anglo-Saxon art.

During the seventh and eighth centuries England had much intercourse with the continent of Europe, and this must have influenced the art of these islands. Late in the ninth century A.D. the Danish Goths, who had acquired and developed the arts of Gaul, began to settle in England, and imparted to the inhabitants their arts, and, being expert blacksmiths, renowned for making arms and coats of mail, English metal work, especially that of iron, gained a high reputation.

The most frequent examples of early ironwork pertaining to architecture are door hinges, a few of which of Roman times have been found in France, though not in England. These early hinges consists of a single strap of iron on the front of the door carried round to the back, and formed into a socket at the angle. From these early examples were evolved the elaborate scroll-work hinges of later times. One of the earliest and most usual forms was that of a triple strap, the central one straight and the side pieces curved as a crescent. Occasionally additional crescents spring from the central strap, and for some

centuries the hinges have a great variety of form and ornament, three being sometimes used to each door, and where space permitted the central strap was very elaborate, often in the form of a richly foliated cross. Some of the church doors of the eleventh and twelfth centuries were not only decorated with elaborate hinge work, but were covered with Pagan emblems, such as serpents' heads, fish, birds, sea dragons and Vikings' ships, which appear to have originated with the Danes, who clung longer than the Anglo-Saxons to their old myths. There are one or two doors bearing these Pagan emblems still extant in England.

Ornaments of geometric designs made up of segments of intersecting circles, were also used about this period, as well as a kind of javelin-like piece used horizontally and obliquely between the hinges. In some, the central strap of the hinge was detached and formed an ornament by itself; in others the crescent straps were bent almost at right angles, and branched into elaborate scrolls on either side. The crescent, however, was not the only type of hinge in use at this period, some consisting of a stout central stem, branching into scrolls, often mingled with foliage; such hinges, dating from about the middle of the twelfth century, were till recently on the doors of St. Alban's Abbey.

When the invasion of heathen tribes came to an end, the need for very strong doors to churches passed away, and elaborate hinge-work did not long survive in England though it was still carried on for some centuries in Denmark and Scandinavia.

It is not known whether grilles of scrolled ironwork were used first in English or French cathedrals, as there is nothing to indicate their introduction previous to the twelfth century, except the one in Winchester Cathedral, which is supposed to be late eleventh.

Iron grilles of simple design were used by the Romans, as doors and as railings to temples and public buildings; but most of the ancient grilles were of bronze.

In the Middle Ages the use of grilles became necessary when cathedrals were enriched with costly shrines and reliquaries of precious metals, which might tempt plunderers. The iron grille at Winchester Cathedral is the oldest one known, being older than those of France and Spain. In Lincoln Cathedral is one of a simpler, and probably later type, consisting of a number of small C scrolls tied together in pairs, back to back, which probably dates

from the twelfth or thirteenth century; but most of the old church grilles of England and France have been destroyed.

With the thirteenth century the older elements began to die out, and the influence of Gothic architecture, with its characteristic ornament, shows after a time in the ironwork. One of the best, and probably earliest examples, is at Worksop Priory; it forms the lining of one of the doors, and consists of graceful scroll work of almost complete circles filled with lilies and foliage, the whole unconnected with the hinge-work.

There are several other examples of early thirteenth century hinges and door ornaments in various churches in England, and in the foliage the vine predominates. This style led up gradually to the richly stamped ironwork, to produce which the smith had to strike the hot iron into prepared dies. The art of making and using steel or chilled iron dies was known in France before the thirteenth century, and the secret was long jealously kept; but early in the century it became known in England. The distribution of this richly stamped ironwork of the French type in England is remarkable, but there are few examples of it, the principal one being the Eleanor grille in Westminster Abbey, which was made by Thomas de Leghtone in the year 1294. It consists of eleven panels resembling hingework, riveted to a plain rectangular frame, with concave surface, and surmounted by a row of trident spikes, perhaps used as prickets.

This stamped work was not the only ironwork made in England in the thirteenth century, as hinges of the crescent type were still used, but they gradually gave place to the simple strap hinge endings in scrolls.

The fourteenth century marks a transition period in the art of the blacksmith, who no longer only hammered out the iron while it was hot, but shaped it when cold with saw and file.

Grilles made of small bars threaded vertically or diagonally through each other were common in France at this period, though rare in England. The designs of some of the grilles of the fourteenth and fifteenth centuries are taken from woodwork, a style introduced from the East, of which a good example, dating from 1328, is in Westminster Abbey. It consists of two tiers of long narrow round-headed arches filled with a quatrefoil diaper, formed of short pieces of forged iron, halved where they intersect, and wedged into notches in the upright frame.

For a couple of centuries ironworking, as a fine art, was almost extinct in England, though iron was used for many purposes, among which may be mentioned the tomb railings with plain vertical bars, which were the predecessors of the modern cast-iron railings.

These tomb railings with the vertical bars are essentially English, the continental ones being constructed of horizontal bars and scroll work. The date of their introduction is uncertain; they are supposed to have been used during the fourteenth century, and continued till the end of the Tudor period. In late examples they were carried upwards and either sharpened into points, or barbed like arrowheads, and still later the crests of the donors often surmounted the vertical bars.

Towards the end of the fourteenth century door furniture, such as hinges, knockers, and handles had become comparatively plain; but some of the church door handles of the fifteenth and sixteenth centuries still exhibit eastern influence. Some examples have as back plates simple discs of iron notched and lobed round the margin and bossed out in the centre, while others combine sheet iron and forging, the plates being strengthened by stout circular bands, and pierced with crosses, trefoils and other ornaments. The handles associated with these plates are rings, decorated or simple stirrup-shaped, or occasionally interlacing knots. There is a door handle in the Museum from Crete, which is very similar to those found in England.

176-99. DOOR HANDLE, iron, from the gate of the Greek Hospital, Candia, Crete.

The small bar door handles attached vertically at each end by traceried plates or rosettes mostly belong to the fifteenth century, and handles and plates exhibit a variety of form.

The elaborately decorated hinges of the older styles are rarely met with in England in fourteenth century work, though some occur in remote places; in the fifteenth century a few hinges were still spread over the doors, though with less elaborate foliage. Besides the few remaining door hinges, there are many fine examples of this work on chests, in which strength was required, and which were, therefore, often richly decorated.

There is a spur in the Museum which is supposed to be English work of the fourteenth or fifteenth century; but little of this kind of work or of armour was produced in England at this period.

505-87. SPUR, wrought-iron, with seven-pointed steel rowel, held by two grotesque heads. English, fourteenth or fifteenth century.

In the fifteenth and sixteenth centuries iron working in England declined, and little but the rudest work was produced, almost all the iron being wrought in a cold state, and heat only used in the earlier stages. The crafts of the locksmith and of the armourer became more important than that of the blacksmith.

Sheet iron came into general use, and was used for many objects, several thicknesses pierced in different designs being placed over one another, and the whole riveted together in strong frames. A few examples of this work exist in England, believed to be either foreign or made in England by foreign workmen.

During the sixteenth and seventeenth centuries large quantities of ironwork were produced in Sussex, where there is iron ore, and the great Sussex forest supplied the fuel; cast-iron guns were made in great numbers; but the chief objects now remaining are fire-dogs and fire-backs. The fire-dogs are of various designs, but generally consist of a vertical standard, terminating in a human head, and standing on an arched piece with two feet, and at about six or eight inches from the ground a long horizontal bar runs out to the back terminating in a vertical piece or third foot. Some of the earlier ones were taller, and had a brazier at the top instead of the head, sometimes the bar was rivetted to the standard; but later examples were altogether forged.

From about the first half of the sixteenth century the fire-dogs were often cast, as about this date the art of casting iron is said to have been introduced into England, and cast-iron guns first made.

The fire-backs cast in Sussex during the early part of the seventeenth century were generally of large size, and often decorated with the arms of the family to which the house belonged.

Various other objects were also made, such as hinges, door handles, knockers and fire-grates. The hinges of this period were small, and spread up and down the styles of the doors, and the door handles and knockers were plain with little ornament, though somewhat similar in design to the older one.

Early English keys were of various forms, some having the bow oval in shape and plain, others quatrefoil-shaped;

the bit had generally a comb varying in length, with a few wards parallel to the stem. This type of key continued till about the sixteenth century.

The French tastes of Charles II. probably introduced into England richly wrought iron keys, and later on English keys became the fashion in France. The bows of English keys of the seventeenth and eighteenth centuries are often elaborately decorated with crowns and monograms, some of these being made as late as the reign of George II.

529-99. KEY.—Steel, with scrolled bow, stem quatrefoil-shaped. English, late seventeenth century

230-96. KEY.—Steel, with circular bow, stem cylindrical. English, late seventeenth century.

231-96. KEY.—Steel, with ornamented bow, stem solid and chased. English, late seventeenth century.

135-99. KEY.—Cut and chased steel, the bow ornamented with a design showing a crown. The stem solid. English, early eighteenth century.

In some of the churches about London are to be seen the iron sword-stands which were used for holding the sword of the Lord Mayor or other official when he went in state to church. The earliest mention of them occurs about the end of the sixteenth century, though most of those now extant belong to the early eighteenth. They were about five or six feet high, and of various designs, mostly scroll work enriched with foliage decoration and armorial bearings, and surmounted by a crown. The stands were placed upright, and had a small cup below and a ring above; the point of the sword was passed through the ring and the hilt rested in the cup.

In the early seventeenth century art in France had developed into the style known as "Baroque" and "Rococo," and French taste became paramount in most European countries. It was introduced into England during the second half of the seventeenth century, perhaps by Sir Christopher Wren, who visited France in 1665. The "Baroque" and "Rococo" styles will be described in the part of the Guide on French ironwork.

A good deal of ironwork of the eighteenth and early nineteenth centuries is to be found throughout the British Islands. The well-known screens of Hampton Court are supposed to have been made by Huntingdon Shaw, a Not-

tingham blacksmith, about the year 1700. The screens are twelve in number, and were formerly used in the fence dividing the Park from the Garden. The designs are good, but the workmanship poor, the foliage and ornaments being riveted and screwed on, and not welded to the stem. There is a photograph of one of the screens in the Museum.

The iron railings for St. Paul's Cathedral were made in Sussex early in the eighteenth century, and are cast, though Sir Christopher Wren wished them to be of wrought iron.

Of late years a revival in ironwork has taken place, and like many of the revivals of modern times, the work is mostly copied from old examples.

148 A. & B.-08. PADLOCK, KEY AND HASP, from the old Newgate Prison, Green Street, Dublin. Irish, early nineteenth century.

22-08. WEAVER'S CANDLESTICK.—Iron, with socket for candle, hook and arm for suspension and adjustment for raising and lowering. Irish, early nineteenth century.

23-08. LAMP.—Wrought iron, with receptacle for oil and wick, and hooked arm for suspension. Scottish, eighteenth-nineteenth century.

332-10. CARVING KNIFE.—Steel blade, by Read, Dublin, and green ivory handle. Irish, Dublin, late eighteenth century.

333-10. CHATELAINE CHAIN.—Steel, with coat of arms and crest inlaid in brass. Irish, Dublin, by Read, late eighteenth century.

564-10. FIRE BACK.—Cast-iron, with decoration in relief, in the centre a vase holding flowers, and around the sides and top floral scrolls; below IP 1737. Said to have come out of an old house on Arran Quay, Dublin. Irish, eighteenth century. Plate IX.

123-99. PLAQUE.—Bust of Oliver Cromwell, in relief. Probably English, seventeenth century.

419-04. MEDALLION.—Cast-iron. Bust of the Duke of Wellington to right, Ducal coronet above. English, nineteenth century. Given by Mr. and Mrs. J. Martelli Williams.

- 643-92. **KNOCKER**.—Cast-iron; a mask, with a ring suspended from the mouth. Irish, eighteenth century. Plate IX.
- 178-92.—**LAMP**.—Wrought-iron; the upper vessel holds the oil, and can be gradually tilted to allow the oil to flow into the lower which holds the wick; above is a spike and hook for suspension. Scotch, probably eighteenth century.
- 928-84. **PLAQUE**.—Cast-iron, a horse and man, in relief; after Albert Dürer. Modern English: Coalbrookdale.
- 925-84. **CAMEL**.—Cast-iron bronzed. Modern English: Coalbrookdale.
- 926-84. **DROMEDARY**.—Cast-iron bronzed. Modern English: Coalbrookdale.
- 208-84. **CANDLESTICK**.—Wrought-iron; copy of an older design. Modern English.
- 409-86. **MUSIC STAND**.—Wrought-iron, formed in the shape of a lyre, with scroll work. Modern English.
- 411-86. **BRACKET**.—Wrought-iron; a bracket for one light, ornamented with spiral ornament and conventional flower. Modern English.
- 412-86. **BRACKET**.—Wrought-iron bracket for a candle. Modern English.
- 410-86. **LILY**.—Wrought-iron specimen of a lily. Modern English.
- 413-86. **FLOWERS**.—Wrought-iron specimen of flowers. Modern English.
- 88-85. **ROSE**.—Wrought-iron specimen of a rose. Modern English.
- 1264-88. **HINGE**.—Wrought-iron hinge, ornamented with foliage design. Modern English.
- 927-84. **VASE**.—Cast-iron bronzed, the handles formed as female figures holding wreaths, medallions on either side. Modern English.

- 492-85. PLATE.—Cast-iron, pierced, ornamented with foliage, figures and animals. Modern Irish.
- 489 and 490-85. FIREDOGS.—Wrought-iron, ornamented with foliage design, the uprights terminating in grotesque heads. Modern Irish.
- 214-98. FIGURE of a boy supporting a socket, cast-iron. English, eighteenth or nineteenth century.
- 880-94. FIREDOG.—Cast-iron, the base formed of scrolls, masks and festoons; above two figures supporting figure of Jupiter with an eagle. English, nineteenth century.
- 875-94. PANEL.—Cast-iron panel ornamented with scrolls and foliage in imitation of repoussé. Modern English.
- 878-94. FOUNTAIN.—Cast-iron fountain, with figure of a child holding two pitchers. English, nineteenth century.
- 211-98. STATUE.—Cast-iron statue of Venus. Modern English. Coalbrookdale.

FRENCH IRONWORK.

From Roman writers we learn that iron was in general use in the other countries of Europe before their peoples came into contact with Rome; but of its introduction or manufacture nothing is known. When Gaul was subjugated by the Romans, the inhabitants excelled in ironworking, and excavations have shown that a vast amount must have been produced. It is said that the Gauls at this time were acquainted with the production of cast-iron, and also with plating and inlaying iron with gold and silver.

After the downfall of the Roman Empire the arts retrograded for a while, and ironworking in France, down to almost the twelfth century, was of the simplest kind, and the earliest designs for the more elaborate work were probably derived from England. The hinges are almost all based on the English crescent form, but the lateral straps forming the crescent are joined to the central part some distance from the butt; sometimes the central strap

was detached to form merely an ornament, or was omitted altogether. The hinges and strengthening pieces were divided into numerous small separate parts fixed to the doors; but the crescent form was generally apparent.

Towards the end of the twelfth century a new style of ironwork was introduced in parts of France, and we find the hinge straps and scrolls no longer ornamented by the graver and chisel, but moulded under the hammer. This style is characterised by the constant repetition of a tongue between two unequal scrolls for every termination, and between the hinges and on other parts of the door there was often a geometric pattern nailed on in separate pieces. There is a good example, which is probably French, in Durham Cathedral.

There are no cathedral grilles in France as early as that at Winchester, and though one is ascribed to the twelfth century, the date is doubtful. In thirteenth-century ironwork, when foliage was introduced, the vine was generally used. Most of this was stamped work, that is, the hot iron was pressed into steel or chilled iron dies, a process which appears to have originated in France.

There are in the Museum two small hinges with the thirteenth century vine-leaf decoration.

165-96. HINGES.—Two hinges, consisting of a central stem, branching into two scrolls on either side, with a central tongue; both scrolls and tongue terminate in conventional vine leaves and bunches of grapes. French, thirteenth century. Plate III.

This stamped ironwork culminated in the celebrated hinges still existing on two doors of the Cathedral of Notre Dame, Paris, a cast of one of which is in the Museum. It is remarkable that nothing is known as to when or where these hinges were made, but they are generally supposed to date from about the middle of the thirteenth century.

450-91. HINGE.—Plaster cast of wrought-iron hinge from one of the western doorways of the Cathedral of Notre Dame, Paris. French, thirteenth century. Frontispiece.

Very little of this style of work is met with in any part of France, except in or near Paris; Liege being the only town on the continent, outside France, where it is to be found.

Early in the fourteenth century Italian art appears to have influenced that of France, and its earliest introduction is apparent in grilles, in which the Italian quatrefoil was greatly used. Besides the church grilles, examples of rich window grilles of varied designs abound in France. Some were formed of vertical twisted bars of iron of different patterns, crossed with horizontal bars, and the intersections hidden by rosettes; others were elaborately decorated with foliage, fleurs-de-lis, bunches of lilies, tridents, &c.

The hingework in the fourteenth century became comparatively simple, and generally consisted of plain straps of iron ending in fleurs-de-lis or other ornament; but, unfortunately, the French churches have lost much of their ironwork.

187-96. HINGE.—Formed of plain strap in the centre, terminating in a fleur-de-lis, and two side straps on each side, terminating in fern-like ornaments. French, fourteenth century.

France, during the fifteenth century, was especially renowned for its ironwork chiselled from the solid, and much skill was bestowed on locks, keys, bolts, knockers, coffers, gratings, &c., which can be distinguished from those of neighbouring countries by the artistic refinement characteristic of French art in the fifteenth and sixteenth centuries. The designs were generally purely architectural, with detail of rich flamboyant tracery, figures, canopies, pinnacles and mouldings, and this style lasted, with a few notable exceptions, throughout the Renaissance period in France.

Italian influence first banished the style from Court circles, and it gradually withdrew to the more remote provinces, probably dying out in Brittany in comparatively recent times. The hinges seem first to have disappeared, followed by the knockers, bolts and caskets, and finally, the elaborately worked locks.

Knockers continued to be used during the sixteenth century, but though somewhat out of fashion in the earlier years of the seventeenth, they were still richly worked, and in form were either stirrup shaped, with masks and heads, or drop-like, with foliated mounts suspended from a rosette or lion's head.

Various forms of these were made till early in the seventeenth century, when an embossed plate with heavy

stirrup-shaped hammer became the fashion, and continued in use till well on in the eighteenth century. There are in the Museum a few examples of the hammers of French knockers of the fifteenth and sixteenth centuries.

220-96. **KNOCKER.**—Hammer of knocker, wrought-iron, suspended from trefoil-shaped ornament. French, late fifteenth century.

204-96. **DOOR HANDLE.**—Wrought-iron door handle, with escutcheon of Gothic tracery, the handle stirrup-shaped, terminating in the centre in an acorn. French, fifteenth century.

221-96. **KNOCKER.**—Wrought-iron hammer of knocker, in the form of a scroll with a serpent. French, sixteenth century.

222-96. **KNOCKER.**—Wrought-iron hammer of knocker, ornamented with a two-headed dragon. French, fifteenth century.

224-96. **KNOCKER.**—Wrought-iron hammer of knocker, with grotesque fish-like ornament. French, fifteenth century.

The forms of French caskets are characteristic, and there are two general types. The most usual is an iron box about eight or nine inches long, with a barrel-shaped, or occasionally flat, lid, bound with bands and plates of iron, pierced into tracery or inscriptions, and supported by carved buttresses forming feet. On the lid is a bent handle, the ends terminating generally in small dragons' heads. The other type is of wood with a flat top, often covered with leather and bound with similar ironwork to those made of iron, and occasionally with a similar handle.

192-96. **CASKET.**—Wrought-iron casket, ornamented with Gothic tracery and fleurs-de-lis. Lid barrel-shaped, having a small handle on top. French, fifteenth century. Plate IV.

227-96. **CASKET.**—Wrought-iron, the front ornamented with Gothic tracery in pierced work, the remainder plain, lid flat with small handles. French, fifteenth century.

207-96. **CASKET.**—Wood, covered with leather and bound with wrought-iron tracery work. French, fifteenth century.

200-96. CANDELABRUM.—Tripod base, stem square with knob, above a revolving brass pan, surmounted by a smaller revolving receptacle and large candle holder. French, fifteenth century.

Locks in great variety were made during the fifteenth century, many of them with complicated movements, requiring several keys to open them. The most general type of door-lock is a square or oblong architectural panel, ornamented with tracery, and frequently with a group under a canopy, such as the Virgin and angels, or else a single figure, to conceal the keyhole. Sometimes a figure holding a shield of arms forms the the handle of the bolt, which is used independently of the key. The finest locks appear to have been made for wardrobes and the coffers in which valuables were kept; some were elaborately finished with representations of the Crucifixion, the Last Judgment, or Christ and the twelve Apostles, while others bear equally elaborate coats of arms.

Some examples of locks and bolts of this period may be seen on the French furniture in Room VIII. of the Museum.

208-96. LOCK AND BOLT.—Wrought-iron, with Gothic tracery and ornament in open work. French, fifteenth century.

209-96. LOCK-PLATE AND BOLT.—Wrought-iron, lock missing, bolt with curved handle terminating in grotesque heads. French, fifteenth century.

210-96. LOCK.—Wrought-iron, with Gothic tracery of flamboyant design in pierced work, and a figure of Christ under a pinnacled canopy. French, late fifteenth century.

211-96. LOCK.—Wrought-iron, with open work tracery and pinnacles. French, late fifteenth century.

212-96. LOCK AND BOLT.—Wrought-iron, with Gothic tracery in pierced work. French, fifteenth century.

218-96. LOCK.—Wrought-iron, plain front, with two vertical rope-like ornaments, probably originally with more decoration. French, fifteenth century.

219-96. **LOCK.**—Wrought-iron, with open-work decoration, keyhole concealed by a figure of a winged dragon placed vertically. French, late fifteenth century.

The keys of this period, though artistic, did not receive as much care as was bestowed on the locks. A proof of the importance of the locksmiths is that in the fifteenth century they seem to have been the most powerful guild of Paris, but by the middle of the sixteenth century they appear as only fifth in importance. It is remarkable that larger work in iron were seldom undertaken, notwithstanding the taste for elaborate decoration; still a few very richly pierced iron tabernacle doors are met with, such as those from Rouen and the Abbey of St. Loup, at Troyes, and also clocks with Gothic tracery similar to the locks.

Ironworking in France appears to have reached its culminating point at this period, when the Renaissance, or return to Classic forms, was introduced; but it was some time before the smiths generally adopted the new style. It is first seen about the beginning of the sixteenth century in locks and bolts; but on these the solid chiselled work is abandoned, and the cases made of thin repoussé iron, with arabesques in the Italian style. The older bolts and latches are in rectangular cases richly decorated with embossed ornament, the handles being carved into heads of animals or rosettes, while the latter ones are generally elliptical in outline.

213-96. **BOLT.**—Small oval-shaped bolt of cut iron. French, sixteenth century.

214-96. **BOLT.**—Hammered iron, knob of bolt consisting of human bust. French, early sixteenth century.

215-96. **BOLT.**—Hammered iron, oblong, with the monogram of Henry II. of France, and a crown. French, middle of sixteenth century.

216-96. **BOLT.**—Hammered iron, oblong, with the initials of Henry II. of France and the Constable Anne de Montmorency. French, middle of sixteenth century.

217-96. **LATCH.**—Cut and wrought-iron, somewhat crescent-shaped. French, sixteenth century.

223-96. LATCH.—Wrought-iron, upright, with monogram of Henry II. of France, and a crown. French, middle of sixteenth century.

225-96. LATCH.—Wrought-iron, upright, with vertical handle, and knob formed of grotesque head. French, sixteenth century.

226-96. LATCH.—Wrought-iron, upright, with monogram of Dianne de Poitiers. French, middle of sixteenth century.

194-96. PANEL.—Hammered iron, with Renaissance ornament. French, sixteenth century.

About the middle of the sixteenth century, under Henry II., architecture and art became less dependent on Italian artists, for a brilliant French school had arisen, and though many Frenchmen studied in Italy their art had acquired a certain individuality which differentiates from the Italian. Lock fronts were beaten in relief from sheet iron, and were often in the shape of Corinthian porticoes, with garlands, figures, or combats, mingled with royal arms, cyphers and badges.

163-86. LOCK PLATE.—Electrotype copy of lock plate with six nude figures in relief, and a massive raised rim, in the centre the monogram "A.M." interlaced. French, sixteenth century.

164-86. LOCK PLATE.—Electrotype copy of lock plate with architectural front and combats of nude warriors, in relief. Two keyholes. French, sixteenth century.

Towards the close of the sixteenth century keys were made in large numbers, in the best Renaissance style, and finished like the finest goldsmiths' work. The earlier and more beautiful specimens have bows in the form of sphinxes, or winged Chimeras, back to back, together with masks and scrolls, and a ring above for suspension. The junction between the bow and the stem is generally a Corinthian, Ionic, or Doric capital, and the stem formed of two concentric pipes, the bit having teeth like a fine comb. In later keys the pipes are angular, polygonal, or trefoil in section and the bows are somewhat similar to the older ones; but the Classic capital is first replaced

by a kind of coronet or band, and then gradually disappears altogether. The bit becomes more wedge-shaped and flanged, the comb is shortened and confined to the flange, and the remainder is solid, with a few thin wards.

Jacques Androuet de Cerceau, who died about 1585, published some designs for keys, the pipes of which were round or square and the bits unflanged; but no keys of this design are known to exist now. Other books of designs were published, among them Jousse's, in 1625, his keys had the bows elliptical and foliated, the chief difference being the introduction of a solid stem. French-made iron keys became uncommon about the middle of the seventeenth century, owing partly to the introduction of English keys into France, and partly to the use of ormulu instead of steel for the bows.

In the eighteenth century steel keys were made with interlaced monograms and fancifully shaped wards; but these were generally imitations of the English, which by the first quarter of the century had become the rage. After that date very few finely chiselled steel keys were produced in France.

228-96. KEY.—Steel, the bow formed of two animals with open mouths holding a ball. French, sixteenth century.

229-96.—KEY.—Wrought-iron, the bow formed of two terminal figures. French, sixteenth century.

289-95. DOUBLE KEY.—With sliding bow for use at either end, pierced, a scroll on one side and St. F. on the other. French, sixteenth century.

367-96. KEY.—Iron, bow ornamented with scroll work. French, sixteenth century.

368-96. KEY.—Iron, plain bow, cylindrical stem, bit with flanged comb. French, seventeenth century.

Locksmithing seems to have reached its highest point in France under Louis XIII., early in the seventeenth century, and he himself is said to have made letter padlocks, which had to be set to a certain word before they could be opened. During the eighteenth century iron rim-locks, with cupids and other bas-reliefs, were made in what was called "fonte malleable," a discovery of Réaumur.

Besides locksmithing, iron was much used for small objects, on which the richest and most delicate work was bestowed. Perhaps the most important of these were the purse mounts decorated with masks and lions' heads, somewhat similar to those made in Italy and Spain. Etais, buckles, whip handles, and mirrors were among the smaller objects upon which minute work was lavished, some of these being almost as costly as goldsmith's work. Larger objects, such as wall brackets, lustres, lanterns and chandeliers, were made, but authentic specimens of them are now rare.

Chairs, benches, tables and screens of iron are mentioned in the sixteenth century, but no specimens appear to be extant.

A good deal of the finely wrought ironwork was ornamented with damascening, that is, gold and silver wire beaten into lines cut in the iron or steel and afterwards polished. This process appears to have been introduced into France during the first half of the sixteenth century, and was used in the decoration of weapons, caskets, clocks, and small objects, such as boxes, watches, &c., lasting till the close of the eighteenth century.

Although large quantities of ironwork were produced in France at this period, scarcely any armour appears to have been made, almost all that was used in the country being foreign. There are records of the occasional importation of Italian armour during the first half of the fifteenth century, and shortly afterwards Italian armourers were brought into France. France does not appear to have been distinguished for the production of artillery, as most of the iron guns in their field and siege trains came from Belgium, and probably Sussex.

During the fifteenth and sixteenth centuries iron objects for domestic use were produced in great numbers, the principal perhaps being the fire-dog or andiron. The earliest forms, dating from about the fourteenth century, were plain, and terminated in crooks or balls, the low ones being called fire-dogs and the taller andirons; but by the sixteenth century these names seem to have been used indiscriminately. Some of the andirons for kitchens were elaborate, and were provided with hooks for spits and with cressets, or braziers. Fire-dogs surmounted by small cressets, used as chafing-dishes, appear in the sixteenth century, and probably superseded the older brazier.

In the sixteenth century andirons were ornamented with cast brass or bronze knobs, which led up to the brass

and bronze fire-dogs of later times. Iron fire-dogs ornamented with brass were also made in Italy.

490-02. **ANDIRONS.**—Pair of wrought-iron andirons, ornamented with brass knobs. French, or Italian, sixteenth century.

Many kitchen utensils of iron were in use at this period, among them being the *crémaillères*, elaborate arrangements used in the chimney for suspending cauldrons and kettles; also gridirons, shovels, small tongs, and lamps known as *craissets*. Suspended from the ceiling was a circle of iron, often highly decorated, furnished with hooks for hanging up meat and game. Many of these types have remained in use in remote districts almost to the present day.

Some of the best French ironwork of the sixteenth century is to be seen in the well cranes, which formed a kind of covering over the well-heads. They are abundant in France, though none come up to the best Dutch or German examples.

Towards the close of the sixteenth century ironwork had become comparatively plain, and it was not till the dawn of the "Baroque" and "Rococo" styles that the foliated balustrades and railings, full of curves and scrolls and rich designs first made their appearance.

The words "Baroque" and "Rococo" are applied to those styles which are distinguished by contorted forms and excessive ornamentation, made up of foliated scrolls and shell work, which, though often rich, are wanting in restraint and delicate feeling. Italian influence had died out in France, but a new impulse was given to art when Rubens arrived in 1622; still it was not till the first decade of the seventeenth century had passed that the new style or "Baroque" seems to have made its appearance. It developed fully in the reign of Louis XIII., and with modifications it may be said to have lasted till almost the close of the eighteenth century.

The general characteristics of the ironwork of Louis XIII. are, that it is cut up into panels, and that the scroll work is simple, with curves less frequently broken or reversed than in the time of Louis XIV. The designs depend largely on repeats of the scrolls; leaves are generally small, the sheathing slightly crinkled, and the stems often beaded. When larger leaves were introduced they were usually acanthus, but not well moulded; and palm

leaves and fleurs-de-lis are also to be found in the designs. The transition to the style of Louis XIV. is imperceptible, the change being due to increased skill and ability, and the designs becoming richer and more regularly developed. During the second half of the seventeenth century vast quantities of ironwork were used for the railings which surrounded the courtyards, gardens, parks and avenues, besides balustrades for staircases and window balconies.

- 599-94. BALCONY.—Wrought-iron, formed of scroll work and a few foliage ornaments. French, seventeenth century.
- 600--94. BALCONY.—Wrought-iron, formed of interlaced scroll work, with foliage ornament. French, seventeenth century.
- 558-94. GATE.—Wrought-iron, formed of scroll work and foliage in three upright panels, scrolled top over each panel. French, seventeenth century.
- 142-96. PANEL.—Sheet-iron painted and gilt, pierced with figures and scrolls. French, seventeenth century.

Numerous smiths are mentioned who worked for Louis XIV. at Versailles, the work there between 1664 and 1680 costing over a million livres, and consisting of screens, gates, doors, balconies, &c.

The large and beautifully chased and polished doors still used to close some of the Galleries of the Louvre, are magnificent specimens of seventeenth century ironwork.

During the long reign of Louis XIV., from 1643 to 1715 the style varied somewhat, being at first relatively simple, but characterised later by massive dignity with more flowing lines.

This rich work gradually developed into the "Rococo" of Louis XV., which, as above stated, was, with its capricious curves, and absence of repose and symmetry, not devoid of magnificence.

The reign of Louis XV. was a great period for smiths' work, and the church as well as the aristocracy became munificent patrons, almost every cathedral in France being provided with fine choir screens.

During this reign great differences are apparent in the ironwork of the different periods or from different provinces. Taking the work produced in Paris as typical,

we find that the broken curves, the want of symmetry, and the curious cockscombs, and endive leaves so prevalent in the Rococo, need not destroy the grace of the design; whilst though some of the provincial work is sumptuous of its kind, still the lines are more involved, and seem to be drawn without the knowledge characteristic of Parisian work.

288-93. BALCONY.—Part of balcony, wrought-iron, formed of scroll work and foliage. French, eighteenth century.

289-93. BALCONY.—Part of a balcony, wrought-iron formed of scroll work and foliage. French, eighteenth century. Plate II.

10A-00. BOLT.—Spring bolt, wrought-iron. French, late eighteenth century.

14-78. LOCK AND KEY.—Wrought-steel, with panels of flamboyant tracery, and pinnacles. French, eighteenth century. Plate IV.

646-03. LAMP.—Iron, the upper vessel holds the oil and the lower the wick. Jersey, eighteenth-nineteenth century.

647-03. LAMP.—Iron lamp from the asphalte mines of Montrolier, Haute Savoie, France. Nineteenth century.

632-04. LAMP.—Wrought-iron, with partly covered receptacle for oil and wick. French, Normandy, eighteenth-nineteenth century. Given by Mr. and Mrs. J. Martelli Williams.

633-04. LAMP.—Wrought-iron, with receptacles for oil and wick, hooked and spiked arm for suspension. French, Normandy, eighteenth-nineteenth century. Given by Mr. and Mrs. J. Martelli Williams.

634-04. LAMP.—Wrought-iron, with receptacle for oil and wick, hooked arm for suspension. Swiss, Canton de Vaud, eighteenth-nineteenth century. Given by Mr. and Mrs. J. Martelli Williams.

The Rococo, at its height from about 1735 to 1755, was followed by the more severe and classic style which prevailed during the latter part of the reign of Louis XV. and that of Louis XVI. This is considered to have been due to a revived interest in the antique, consequent on

discoveries at Pompeii and Herculaneum in the earlier part of the century, and is known as Louis XVI. style, but though it appeared in Paris over twenty years before he came to the throne, was not adopted in the provinces till much later. During the reign of Louis XVI. ornamental ironwork acquired a refined style, consisting principally of festoons, wreaths, and folds of drapery tied up with ribands over medallions, and numerous works were produced, such as balconies, stair rails, railings, gates, &c., a fine example is the gate to the Palais de Justice, by Bigonnet.

During the seventeenth and eighteenth centuries French art took the lead in Europe, and in ironwork, as in other things, we see its influence in England, Austria, Italy, Denmark, Russia and other countries; in fact, when decorative ironwork was required it was fashioned in the French taste.

139-06. PLAQUE.—Steel. Cast and chased. Truth issuing from a well. Modern French, by A. Legros.

GERMAN IRONWORK.

The history of ironworking in Germany begins at a later date than in England or France; bronze was the chief metal in early times, and little iron appears to have been used in the days of Romanesque architecture. There are examples of twelfth century iron hinges in various towns of Germany; but for a time this art made no progress.

By the end of the thirteenth century the Gothic or Pointed style of architecture was general in Germany, and decorative ironwork was more used; the designs introduced were taken from the elaborate stamped work of France, but altered in method, for instead of the foliage being stamped it was beaten out thin and flat, and pierced through in places; this pierced ornament becoming one of the most constant features of later German work. - There are few examples remaining of German thirteenth century ironwork, and these are mostly hinges, with the conventional vine-leaf ornament. The vine appears to have been the basis of almost all the early German decoration for hinges, though some examples show combinations of scrolls and small fleurs-de-lis, without foliage. The vine passed through many conventional forms, and in the fifteenth century took that of a flat

lozenge-shaped leaf, deeply indented to form a quatrefoil, a style which was peculiarly Rhenish. A fine example of the vine leaf hinges occurs at Erfürt Cathedral.

871A-80. HINGE.—Plaster cast of iron hinge, the central strap with quatrefoil ornament, terminating in a fleur-de-lis, with a strap on each side in the form of a fleur-de-lis, and with a termination of the same form. German, fourteenth century.

Up to this almost all the ironwork used for architectural purposes in Germany was based on French designs; but towards the middle of the fifteenth century the influence of Flemish work is apparent.

The Germans imitated the Flemish work to a large extent, though theirs was inferior to it in many respects; ornamental tracery copied from Flemish art being much used in grilles, hinges, door handles, and lock plates. At Cologne, the centre of German art industries, Flemish and German work intermingled, but as the distance from Flanders increases Flemish influence diminished, though felt for some time in other parts of Germany.

The Cologne ironwork of the sixteenth century is distinguished by the constant use of the thistle, which first appeared in the early part of the century, and spread rapidly over Germany, taking the place of the vine. For about a century it entered into the composition of all German ironwork of note, being found in the ornament applied to locks, hinges, and door handles. The iron was often tinned, and laid over red cloth, and many of the splayed locks peculiar to Germany were thus treated.

871-80. CHEST LOCK.—Plaster cast of wrought-iron splayed lock, with raised conventional floral ornament. German, fifteenth century.

872-80. DOOR LOCK.—Plaster cast of wrought-iron splayed lock, with conventional vine scrolls and bunches of grapes. German, fifteenth century.

873-80. LOCK MOUNTINGS.—Plaster casts of wrought-iron lock mounts, with foliage ornament and Gothic tracery. German, fifteenth century.

874-80. BELL MOUNTING.—Plaster cast of wrought-iron mounting for a bell, with interlaced foliage ornament, in the centre a representation of the Crucifixion, and below two grotesque animals. German, fifteenth century.

875-80. DOOR KNOCKERS.—Plaster casts of two wrought-iron door knockers, with interlaced foliage ornament. German, fifteenth century.

In Austria, Bohemia, and Poland, doors were occasionally covered with pierced and embossed plates somewhat of the thistle pattern, and with straps of iron, the Austrian examples appearing to be not older than the fifteenth century. They were painted in different colours and gilded, and sometimes the wood showing between the straps was painted with armorial bearings; in some examples these armorial bearings were of beautifully embossed ironwork. This use of straps of iron formed in a trellis pattern is distinctive of German work, and was probably borrowed from Belgium. Another distinctive German ornament was the passion flower, which probably was evolved from the older fleur-de-lis, and was used for the terminals of standard bars and the elaborate crestings used with them. The fully developed passion flower belongs to a subsequent period, and will be noticed later.

The Renaissance did not spread so rapidly in, or take such hold on Germany, as it did in Italy. Germany was already celebrated for its ironwork, and though it was capable of being raised to a higher standard, still the Italian Renaissance had comparatively little influence on it. The designs for ironwork were mostly prepared by the workers themselves, and flowers, fruit, leaves and grotesque heads were introduced, the basis of these designs being almost always round bars of iron threaded backwards and forwards, with the free ends terminating in scrolls and leaves, together with flowers with a central open coil, and also such ornaments as helmeted heads and armorial bearings. . . Examples of these designs are to be seen in the Museum in specimens of modern German ironwork.

It is not known where this style originated; but it seems to have been evolved from older designs, with the thistle and the iris as a basis. It was beginning to appear in the first half of the sixteenth century, and had

reached its highest point during the first quarter of the seventeenth.

This style was employed in many large objects, such as well canopies, and choir screens in cathedrals and churches, and many examples remain in Germany.

469-87. LOCK.—Wrought-iron splayed lock, with two upright handles, and ornamented with pierced applied work. German, sixteenth century.

369-96. KEY.—Iron key, with circular pierced bow and cylindrical stem. German, early sixteenth century.

No. 265. OVERDOOR.—Wrought-iron overdoor, formed of interthreaded scrolls with thistle leaves, in the centre a mask, and above three prickets for lights. German, sixteenth century. Plate VII.

859-80. RELIC BOX.—Plaster cast of steel relic box, with representations of the Crucifixion, and Christ bearing His cross, and richly ornamented. German, sixteenth century.

853 to 856-80. PARTS OF A GUN.—Plaster casts of three parts of barrel and lock, steel, richly decorated with scrolls and figures. German, sixteenth century.

918-80. HINGE.—Plaster cast of tinned iron hinge, the design composed of four fish. German, sixteenth century.

Towards the end of the seventeenth century, the style changed, new designs being introduced with interthreaded scrolled rods, beaten out here and there into arabesque or organic forms, the whole of which was pieced together by welding, without the use of collars or rivets. Later the scroll ends were beaten into characteristic thistle leaves. Great numbers of objects in iron were produced in the seventeenth and eighteenth centuries, including wall anchors, finials, weather-vanes and sign brackets, the latter being quaint and with a great variety of design, some of pierced and repoussé work. The favourite forms of weather-vanes were a mermaid or armed merman, on a slender and scrolled stem, or fanciful flags with dates or armorial bearings, on stems impaling wooden or metal discs.

Elaborately decorated supports for roof gutters were also extensively used, as well as richly wrought brackets for suspending bells.

3997-82. BELL AND BRACKET.—Wrought-iron bracket, with foliated scroll design. German, Nuremberg, seventeenth or eighteenth century.

Ironwork was very popular at this period, and numerous articles for household purposes, which in other countries were made of bronze and brass, were produced in iron. Grave crosses, sometimes painted or gilt, were made of it in the seventeenth and eighteenth centuries.

723A-83. GRAVE CROSS.—Wrought-iron grave cross, formed of interthreaded scrolls, surmounted by a winged figure. In the centre a hinged door. German, Bavaria, seventeenth century. Plate VI.

613-03. GRAVE CROSS.—Wrought-iron, painted and gilt, with scroll and foliate decoration. German, seventeenth or eighteenth century.

A good many objects of iron were made for churches, such as rails, screens, large candelabra, hanging lamps, bracket, pulpit rails, and sometimes pulpits, while domestic objects included stoves, bedsteads, and various forms of candlesticks. A modern English copy of one of these latter is to be seen in the Museum, No. 208-84.

During the first half of the seventeenth century a new departure was made by Johan Reifell, who introduced a broad flat framing enclosing panels of scroll-work, flattened at intervals into arabesques, leaves, flowers, and figures. The chief feature in his designs being the imitation in flat iron of balustrades and arcades. Examples of his work are to be seen at Constance, Lucerne, and Zurich.

In earlier times the thistle appears to have been the basis of almost all the ornament used by the blacksmith and locksmith, but with the Reformation numerous other floral forms appear.

Down to the sixteenth century doors were hung by strap hinges, either plain or overlaid with pierced sheet iron; but later the large panelled doors necessitated, instead of horizontal, vertical plates branching into spiky foliage, dragons, and arabesques.

Strap hinges were used on presses and chests, the ends being finished in various pierced arabesques, and the straps themselves generally flat with incised ornament.

439 and 440-84. HINGES.—Pair of vertical wrought-iron hinges formed of foliated scrolls. German, seventeenth century.

441 and 442-84. HINGES.—Pair of vertical wrought-iron hinges, tinned, formed of foliated scrolls. German, seventeenth century.

443 and 444-84. HINGES.—Pair of vertical wrought-iron hinges, tinned, formed of scroll work with incised ornament. German, seventeenth century.

451 and 452-84. HINGES.—Pair of horizontal wrought-iron hinges, chased and polished, terminating in scroll work. German, seventeenth century.

453 and 454-84. HINGES.—Pair of horizontal wrought-iron hinges, chased and polished, terminating in scroll work. German, seventeenth century.

455 and 456-84. HINGES.—Pair of horizontal wrought-iron hinges, similar to 451 and 452-84. German, seventeenth century.

The door handles, down to the sixteenth century, were often in the form of a crescent, either solid or richly pierced, the horns of the crescent sometimes taking the forms of dolphins, dragons, or serpents. The plain or twisted ring-handles, fashioned like serpents and dolphins, attached to the pierced and slightly embossed thistle back-plates, were continued into the Renaissance period, and the seventeenth century door handles were usually moulded or twisted rings, with small figures occasionally introduced.

445-84. DOOR HANDLE.—Wrought-iron, tinned, with flat, pierced and incised back plate. German, sixteenth or seventeenth century.

447-84. DOOR HANDLE.—Wrought-iron, tinned, with slightly raised and incised back plate. German, seventeenth century.

449-84. DOOR HANDLE.—Wrought-iron, with back plate formed of four conventional thistle flowers. German, seventeenth century.

458-84. DOOR HANDLE.—Wrought-iron, with oblong ring having scroll ornaments. German, seventeenth century.

Generally the locksmith's work of the seventeenth century was flat or slightly raised, with incised lines and tinned, or occasionally in common work simply coated with lead; the keys for these locks were not remarkable.

450-84. LOCK.—Wrought-iron, formed of flat, pierced and incised plates. German, seventeenth century.

2227-81. KEY.—Plaster cast of iron key, the bow pierced, with scroll work, stem cylindrical and incised. German, seventeenth century.

Some of the German locksmiths' work of this period was influenced by that of other countries, latches and locks often exhibiting Flemish characters, while in the south an Italian style prevailed. On the other hand, a great number of Germans worked in Italy in the sixteenth and seventeenth centuries, so that the origin of many objects can, with difficulty, be determined.

Germany was celebrated for its armour, but nothing is known as to the time of its introduction, although as early as the thirteenth century, Cologne, Nuremberg, Augsburg, and other towns had become famous for its manufacture. A great deal of the finest German Renaissance armour, and even some of the locksmiths' work, was gilded or painted in oil colours, or ornamented with etched designs.

Very little German ironwork found its way into the British Islands, with the exception of what are called "Armada chests," which were made of hammered plates of iron riveted to iron straps, crossing each other at equal distances to bind the plates together. They are supposed to have been imported late in the seventeenth century and during the eighteenth, and were generally used as strong boxes in banks, &c. The lock is on the inside of the lid, and the mechanism is masked by a pierced and engraved plate, which invariably points to its German origin. Oak chests, profusely covered with straps and ornament, were made in large numbers in Germany during the second half of the seventeenth century.

264-95. **STRONG BOX.**—Iron, ornamented with Dutch paintings. German, seventeenth century.

Very little is known of the history of cast-iron in Germany, though cannons were cast at Erfürt as early as 1377, when the city of Frankfort ordered one to be made to throw balls of 1,000 lbs. weight.

Stoves made of large separate plates, cast with arms and other designs in relief were made at this period, though it is difficult to say where they were manufactured, as great numbers were made in Sussex and in the Netherlands.

98-99. **FIRE-BACK.**—Cast-iron, with coat of arms and motto "Plus outre." Probably German, seventeenth century.

The influence of the Renaissance was not felt much in Germany as regards the ironwork, which remained almost wholly Gothic, till towards the close of the seventeenth century, when the French style came in. German industry had been checked by the Thirty Years War, and when it revived mediæval styles seem still to have lingered.

In the reign of Louis XIV. of France, German princes made alliances with France, and these princes and electors visited the French Court, and, dazzled by its splendour, became ambitious of imitating it. As a result, ironwork was produced in large quantities, and the design books of France were reprinted in Germany, together with some of native work. Railings, gates, cathedral screens, stair rails, &c., followed much the same styles as in France, but few of seventeenth century make exist. The style of Louis XIV., or of the second half of the seventeenth and early part of the eighteenth centuries, is called "Barock," and that of Louis XV., or the latter part of the eighteenth century, "Rococo," both being copied from the French.

German writers appear to differ as to the limits of the Barock, as some hold that it originated with the Jesuits of Italy, and some extend it to the middle of the eighteenth century, thus almost confining the Rococo to the time of Louis XVI., but it generally accepted that the Rococo is the style of Louis XV., 1715-1773, which comprises perhaps the most sumptuous period of German ironwork.

Though closely following the French, German Rococo work may be distinguished by a freer use of armorial bearings, coronets, and ciphers, while the leaves are crisper, and more curled and veined. The German smith introduced freely cartouches and other shaped spaces, filled with trellised straps crossing diagonally, with rosettes at the intersections, the whole somewhat resembling the interlaced work of former times.

Vienna possesses many fine example of seventeenth and eighteenth century ironwork, though numbers of the grilles and railings to monuments and fountains, window gratings, and sign brackets have disappeared.

The style of Louis XVI. had scarcely time to develop to any extent in Germany before the wars of the Revolution arrested it, and since then artistic ironwork has remained dormant, only to be revived within the last few years by copying carefully the old examples.

217-83. CASKET.—Cast-iron, gilt, with pierced foliage scroll work and figures. German, Berlin, eighteenth century.

605-03. OVERDOOR.—Wrought-iron, formed of scroll work, with a few foliage ornaments, in the centre a monogram, 'H.C.' surmounted by a crown. German, eighteenth century.

606-03. LUNETTE.—Wrought-iron, formed of scrolls and foliage ornament, with something like a coat of arms in the centre. German, eighteenth century.

607-03. LAMP AND BRACKET.—Wrought-iron, bracket with scrolls and foliage ornament, lamp hexagonal in shape. German, late eighteenth century.

608-03. PANEL.—Wrought-iron, formed of inter-threaded scroll work with foliage ornament. German, seventeenth or eighteenth century.

609-03. BRACKET.—Wrought-iron, with flattened scroll foliage ornament. German, eighteenth century.

611-03. BRACKET AND SIGN.—Wrought-iron, bracket with scrolls terminating in flattened curves, the arm ending in form of a bird and a thistle ornament. The sign, sheet iron. German, eighteenth century.

- 446-84.—KEY PLATE.—Wrought-iron, tinned, flat, pierced, and incised. German, eighteenth century.
- 448-84. KEY PLATE.—Wrought-iron, slightly raised, pierced, and incised. German, eighteenth century.
- 457-84. KEY PLATE.—Wrought-iron, slightly raised, pierced and incised. German, eighteenth century.

There are several examples of modern German and Vienna ironwork in the Museum, some copied from the older styles.

- 23-78. CANDELABRUM.—Wrought-iron, on tripod base, scroll and foliage ornament. Modern Austrian, Vienna.
- 24-78. CANDELABRUM.—Wrought-iron, tall candelabrum on tripod base, and three adjustable sconces, the whole ornamented with gold inlay. Modern Austrian, Vienna.
- 25-78. BELL AND BRACKET.—Wrought-iron bracket, ornamented with pierced work; bell and bell-pull attached. Modern Austrian, Vienna.
- 26-78. GRILLE.—Wrought-iron, with panels of conventional foliage ornament, and bunches of grapes. Modern Austrian, Vienna.
- 27-78. GRILLE.—Wrought-iron, with quatrefoil ornament containing fleurs-de-lis, within a circle in the centre, the letter M. Modern Austrian, Vienna.
- 28-78.—GRILLE.—Wrought-iron, with diagonal ornament in the centre, above and below, a band of pierced quatrefoil ornament. Modern Austrian, Vienna.
- 29-78. HINGE.—Wrought-iron, flat, formed of straps terminating in tripod ends. Modern Austrian, Vienna.
- 213-83. GATE AND POSTS.—Wrought-iron gate, formed of inter-threaded bars, with flat foliage and grotesque heads. Modern German, Nüremberg.

- 495-87. FIRE SCREEN.—Wrought-iron, formed of inter-threaded bars with foliage ornament, in the centre the date 1883. Modern German, Berlin.
- 496-87. CANDLESTICK.—Small wrought-iron candlestick, formed of round bars, shaped in scrolls and coils. Modern German, Berlin.
- 512-87. LEAF.—Wrought-iron conventional acanthus leaf. Modern German, Berlin.
- 274-89. STAND.—Wrought-iron stand on four feet, formed of square scrolled bars, with foliage ornament. Modern German, Munich.
- 275-89. GATE.—Wrought-iron, formed of inter-threaded round bars, with the free ends terminating in conventional foliage. Modern German, Munich.
- 276-89. GRILLE.—Wrought-iron, formed of inter-threaded round bars, with the free ends terminating in conventional foliage. Modern German, Munich.
- 874-94. GROUP.—Two goats, cast-iron, bronzed. Modern German, Silesia.
- 118-04. GATE.—Copy of portion of wrought-iron gate, formed of square upright bars, with floral scrolls. The originals at the Palace at Würzburg, erected between 1722 and 1744. Made by C. A. Würth. Modern German.
- 119-04. PILASTER.—Copy of part of same gate. Modern German.
- 120 and 121-04. Two HINGES.—Copy of fourteenth century wrought-iron hinges, formed of three main straps with branches terminating in quatrefoils. The originals on the cathedral door at Würzburg. Modern German.
- 281-06. PILASTER.—Wrought-iron. Copy of early eighteenth century pilaster, formed of square uprights, enclosing a panel of floral scroll work. The original at the Hofgarten, Würzburg. Modern German.

FLEMISH IRONWORK.

In the Low Countries there is very little ironwork existing older than the fourteenth century, the stamped hinges at Liège, previously mentioned, having been probably imported from France. In the fifteenth century the Netherlands became a great seat of the iron industry, and the work produced in Brussels is said to have been unsurpassed in Europe; and from the great commerce which existed with other countries, large quantities of this ironwork were no doubt exported, which may have influenced the styles of other countries.

There exists Flemish ironwork of this period unlike any which has been preserved in England, and of which very few examples are to be found in France, such as candelabra, taper-stands, hanging lamps, and book-rests for use in churches. There are also large guns, which are wonderful productions of the fifteenth century, one at Ghent being nineteen feet in length and eleven feet in circumference, formed of iron coils welded together, and others exist at Edinburgh and Basle.

Ironworking in the Low Countries seems to have been brought to its highest state of perfection by the Matsys family of Louvain, to which town Josse Matsys was architect, clockmaker, and blacksmith, in the fifteenth century. Though most of his work has disappeared, one or two examples still remain, the well cover at the Cathedral at Antwerp is believed to be by him. Probably these well covers were once common, though now only one other example exists in the Netherlands, at Brussels. The large font-cranes for raising and moving the large covers of the fonts, so conspicuous in many Belgian Baptisteries, are peculiar examples of Flemish ironwork, and were in use from the fifteenth to the seventeenth century. The font-crane of Louvain Cathedral is a genuine example of the work of Josse Matsys.

Iron candelabra are also to be seen in Belgian churches, and generally consist of a tripod base and simple stem, sometimes with a knop, supporting circles stepped one above the other and furnished with spikes and sockets for holding the candles. Besides the candelabra there are portable lecterns, seats, alms boxes, and sometimes pulpits of iron, almost all of these having been originally painted and partly gilt. The Flemish grilles of the fourteenth and fifteenth centuries are generally composed of massive upright bars, made to imitate stonework, and

forming long panels with traceried arches. The gates of Bishop West's chapel in Ely Cathedral are very good examples of early sixteenth century Flemish work. A rare form of grille is made of strong plates of sheet iron pierced in arabesque designs, and let into rectangular frames. Although the Flemish ironwork produced by treating the metal in its cold state never quite attained the refinement of that of France, yet some good work was produced in Brabant, especially in Louvain. There is a very fine example of fifteenth century Flemish work in St. George's Chapel, Windsor, consisting of two gates and gate piers, originally gilt. Door handles and locks with flamboyant tracery, of Flemish origin, are also to be found in England.

Great numbers of Flemings emigrated to England in the sixteenth and seventeenth centuries, and greatly influenced our ironwork. The arts of France and Germany seem to have met in the Low Countries, and from the fusion of these, new styles arose. This was especially apparent in ironwork, which was so beautifully wrought as to entitle it to places of honour in the principal churches, and iron chandeliers and font-cranes continued to be made during the sixteenth and seventeenth centuries, sometimes of purely Renaissance design, with openwork scrolls and foliage.

Few church screens or grilles of iron were produced during the Renaissance, as the taste for rich carving and more costly materials, such as marble and bronze, prevailed so much that some of the existing iron examples were destroyed. It seems probable that Belgium was the first country to use iron railings on a large scale, round open spaces, for it is mentioned in 1555 that the space in front of the Duke of Brabant's palace in Brussels was thus enclosed. Iron was most extensively used during the fifteenth, sixteenth and seventeenth centuries, in Flemish cities, for various purposes, such as window grilles, door hinges, well canopies, sign brackets, &c.

The window gratings or grilles were of upright bars, sometimes octagonal, with rudely moulded caps and bases, or of interlacing bars crossing diagonally or at right angles. Town Hall windows often had gratings richly decorated with foliage and crestings.

A few of the iron finials or crestings of the sixteenth or seventeenth centuries still exist, the oldest being in the form of open-work crosses, while those of the Renaissance are usually bannerettes or spikes enriched with bosses and

clustred scrolls. Many of the sign and lantern brackets were beautifully wrought with flowers and foliage, but few of Mediæval or even Renaissance style remain.

A feature almost peculiar to the Low Countries is the use of decorated wall anchors, introducing some device, such as the owner's initials or his trade sign, or the date of the building. Some are said to date from the end of the thirteenth century, though most of the early examples now existing are of the sixteenth, and these are generally of some geometric design, or have the fleur-de-lis introduced. A few examples, probably copied from the Flemish, exist in Northern Germany, and in some towns in England and France.

943 to 950-90. WALL ANCHORS.—Eight iron wall anchors, used for securing the ends of tie rods, each terminating in a kind of fleur-de-lis. Dutch, sixteenth or seventeenth century.

During the seventeenth century the Flemish smiths seem to have produced mostly small objects for domestic use, of which perhaps the most important are the fire-dogs and andirons, usually surmounted by an open cresset. Many of these exist in pairs; but double fire-dogs are very scarce. Braziers, also with the cresset top and tripod legs, but without any special features, were fairly common.

33-84. BRAZIER.—Wrought-iron brazier on tripod base, plain stem with knop, surmounted by the receptacle for fire, fitted with rings and hooks. Dutch, seventeenth century.

439-83. CANDLESTICK.—Wrought-iron candlestick on tripod base, the stem formed of six round iron rods. Flemish, seventeenth century.

446-83. GRILLE.—Wrought-iron grille, brass mounted, with pierced and chased representations of the Crucifixion. Flemish, sixteenth century. Plate V.

Other objects were the gridirons, mentioned in inventories from the fourteenth century, generally formed of a scroll design worked out in square iron; large chandeliers, somewhat similar to the brass examples in the Museum, were reproduced in open ironwork, with light scrolls welded together; and also brackets, desk-stands, and even bird-cages and dog-kennels.

650 and 651-83. GRIDIRON AND FORK.—Wrought-iron gridiron and fork, formed of square rods of iron welded together, and the free ends formed into scrolls. Formerly belonging to the ancient Corporation of the Good Fathers of Alost. Flemish, about 1500.

The Low Countries, and especially Louvain, were famous for lock-work, and domestic door furniture: one type of hinge long known in France as the "Flamand" consisted of two straps, which clasp the door on both sides, and end in an eye working on a hook fixed in the jamb of the door.

During the sixteenth century Gothic hinges with decorated straps, frequently ending in a fleur-de-lis, were the fashion; but these were succeeded by others with the curving outlines of the Renaissance style. The general use of panelled doors at this period necessitated a short form of hinge, which at first had merely foliated strap ends; later the hinge became "H" shaped, in the form of fish, reptiles, or more commonly, birds' heads.

Latches were also used on doors and shutters, some consisting of a pierced plate holding a pair of vertical spring catches, which were released by pressure of the finger and thumb; others of pierced plates, with lifting latches.

445-83. IRONWORK.—Piece of wrought-iron twisted work, perhaps part of a hinge. Flemish, sixteenth or seventeenth century.

445-83. LATCHES.—Three single and two double spring latches, wrought-iron, with flat pierced iron back plates. Flemish, sixteenth or seventeenth century.

441-83. LOCK AND KEY.—Lock and key for a chest; inside, the lock has a flat pierced iron plate. Belgian, seventeenth century.

442-83. LOCK.—Key and knob of lock, wrought-iron. Flemish, seventeenth century.

17-92. LATCH LOCK.—Plain wrought-iron latch lock. Flemish, seventeenth century.

443-83. LOCK.—Part of a lock, pierced, with figures of children. Flemish, eighteenth century.

Knockers were not in common use, and were generally plain—often formed of two bars welded together in the shape of a Y, the upper ends working in two eyes.

444-83. **KNOCKER.**—Wrought-iron hammer of knocker in the form of a Y, terminating below in a close scroll. Flemish, seventeenth century.

Few iron caskets were made in the Low Countries, except the late mediæval hexagonal alms-boxes. The earlier wooden boxes, bound with iron and without much attempt at decoration were fairly common, until superseded in the seventeenth century by the German iron strong boxes, previously mentioned.

The Low Countries, and especially Brabant, were once celebrated for the production of armour, mention being made of it as early as the fourteenth century, but no piece now existing appears to be known as Flemish or Dutch. Flanders also provided large quantities of cannon; these at first were of wrought-iron, which were made down to the sixteenth century, notwithstanding that bronze and cast-iron guns were being produced at Tournay. This place was famous for artillery, and large numbers of guns were made there for England and France during the sixteenth century. The production of small arms was also considerable, several design books for gunsmiths being published in Amsterdam towards the end of the seventeenth century.

Besides the cannon and small arms, well-designed fire-dogs and fire-backs were manufactured during the sixteenth and seventeenth centuries, most of them ornamented with coats of arms and equestrian figures. Later examples have figures, fruit, and dolphins, the latter being a characteristic feature in Flemish ironwork.

The further development of the Flemish school of iron-working appears to have been checked when the spirit of the nation was crushed by the Spanish yoke, and civil and religious wars; and when the smith's craft decayed in the Netherlands it began to flourish in Spain.

ITALIAN IRONWORK.

Although iron was used for some purposes in Italy, as shown by the discoveries at Pompeii and Herculaneum, it was never used to any extent for decorative purposes, as it was in Northern Europe. The earliest examples of

decorative ironwork in Italy are in Venice and Verona, and perhaps belong to the latter part of the thirteenth century; but this early work shows no signs of English or French influence, being for the most part copied from the pierced wood and marble work, used in eastern countries, with which Venice had a great trade. The earlier grilles of Venice were made with a geometric design, but later on, animals, quatrefoil ornaments, and in some cases heraldic devices, were introduced in the geometric lattice work. Other grilles were formed with circles and quatrefoils, the best example of which, dating from the second half of the fourteenth century, is to be seen at Verona. This form lasted till the early part of the sixteenth century, and was revived in the seventeenth and eighteenth.

Protective gratings formed of vertical iron bars were in use in Italy from early times, being mentioned by Pliny in the first century, A.D. Occasionally, perhaps for strength, they were threaded diagonally, especially in Venice; but it was not till the fifteenth century that they were ornamentally treated.

What is known as the Renaissance began in Italy about the thirteenth century, developed there in the fourteenth, and thence spread over Europe, changing the prevailing styles of art in England and other northern countries.

As the Renaissance was a return to ancient forms in which iron was little used, very little Italian iron of this period, when it was more used in construction than in decorative works, remains.

Although at this period bronze was the favourite metal for artistic work, some ironwork was produced in Venice and the adjoining country, where the quatrefoil decoration was largely used, and gradually spread to other parts of Italy.

Though bronze was so generally used in Italy for objects which in Northern Europe were made of iron, one Italian blacksmith, Niccolo Grosso, born in 1455, produced some beautiful examples of ironwork, among which are lanterns still existing in some of the old palaces of Florence, and also banner holders and horse rings. The banner holders, often combined with horse rings, are sometimes simple, but occasionally in the form of sea-horses, sphinxes, or grotesques.

489-02. BANNER HOLDER.—Formed of the head of a winged dragon, from which is suspended a twisted ring, circular back plate, with applied foliage ornament. Fifteenth century style, Italian.

Large iron tripod stands for braziers were used in Italy from the fourteenth century, and were of various forms: some had a standing bracket and hook to suspend a lamp or perfume dish; but generally, the tripod supported only a brass dish.

136-96. TRIPOD STAND.—Stem hexagonal, with three supports for brass dish, each support with pierced iron ornament, and terminating in a lion's head and ring. Italian, fifteenth century. Brass dish, seventeenth century.

Iron door knockers of the sixteenth century were usually plain, though occasionally richly worked, and vanes and finials in iron were unusual; in some places, simple though elegant arched supports for well pulleys were used.

Andirons were not much used in Italy, except in the north, and were not common there till the seventeenth century. They were usually simple, though some richly forged ones were used, together with pierced iron fire-irons, which often terminated in bronze figures. Italian locksmiths' work of this period is poor compared with that of France and Germany, and the locks and hinges on chests and other household objects were generally concealed, and little thought of, except in some north Italian specimens, which exhibit French influence. The keys were as poor as the locks, generally formed of sheet iron rolled and soldered together, having a circular bow filled with Gothic tracery of pieces of bent iron soldered together, in imitation of the pierced keys of France. The bow is sometimes surmounted by a coronet or ring.

Although Italy was behindhand in locksmiths' work she was renowned for that of the armourer from the fourteenth century, and exported it to all the European courts. Milan was the chief seat of the armourers and steel workers, and even in the thirteenth century it is mentioned that this city could equip six thousand armed men on mail-clad horses. Verona, Pistoja, Mantua, and especially Brescia, were also celebrated for their steel work; but Florence was the great rival of Milan in the manufacture of arms and armour, and the armourers' guild there was important enough to commission Donatello to make a statute of St. George for them. Probably most of the ironwork in the north of Italy was of French and German origin, and little was produced in the south except at Rome and Naples.

508-02. STIRRUP.—Cast-iron bell shaped stirrup, decorated with pierced work. Italian, fifteenth century style.

509-02. STIRRUP.—Cast-iron bell shaped stirrup, decorated with raised and pierced work. Italian, fifteenth century style.

Venetian art was somewhat different from that of the rest of Italy, being much influenced by eastern taste, which is especially apparent in the ironwork. To the Venetians we probably owe the introduction into Europe of the art of damascening, used in decorating arms, armour, caskets, and other things. Towards the close of the sixteenth century large gilded lanterns were used to decorate the palaces and gondolas of the Venetian nobility, and were ornamented with figures and embossed and pierced leaf-work; they were generally partly of iron and partly of lead or wood. The prows and sterns of gondolas in the seventeenth century were decorated with dragons and other monsters, birds and foliage, generally gilt; smaller vessels had iron ornaments in the form of volutes, pierced, engraved, and brightly polished. In the sixteenth century metal seems to have been largely used in household furniture, such as supports for tables and braziers, candlesticks, posts of bedsteads, and also in the screens and balconies, mostly formed of rectangular diagonal cross bars associated with Venetian architecture. In screens, when the Gothic quatrefoil fell into disuse, scrolls, modified according to the shape of the enclosing frame, came into fashion, and some of the ornament seems to have been copied from the arabesques on damascened iron. This lace-like work was common in Venice in the sixteenth century, and gradually spread over the rest of Italy.

604-02. GRILLE.—Wrought-iron grille, formed of "S" scrolls tied together. Italian, sixteenth century. Plate II.

530-92. PURSE MOUNT.—Steel, chased with masks and figures, &c. Italian, sixteenth century. Plate V.

The exact time at which floral work was introduced into the scroll designs is not known, but this is found in some sixteenth century examples; probably because the lace-like work was weak, floral designs were applied to

strengthen it. The following example is ascribed by some to France, but it is more likely Italian.

205-96. DOOR.—Wrought-iron, in the centre a vase with flowers and foliage issuing from it, a border formed of scrolls and flowers. Probably Italian, seventeenth century. Plate III.

Some of the screens had a ribbon-like design formed of scroll work, embellished with twists and spirals tied together without heat, and if strength was required, small bosses, mouldings or masks or cast brass were applied, and where Venetian influence prevailed, there is found an inter-crossing tracery design, derived probably either from the east or from Germany, as German smiths often worked in Italy. This kind of work was in fashion during the seventeenth and eighteenth centuries, and a good deal of it is copied by the modern Italian smiths.

687-01. BRACKET.—Wrought-iron gilt, formed of foliage scrolls, spirals and flowers. Italian, seventeenth century.

688-01. BRACKET.—Wrought-iron gilt, formed of foliage scrolls, spirals and flowers. Italian, seventeenth century.

689-01. SCONCE.—Wrought-iron gilt sconce for two lights, with flowers and foliage ornament. Italian, seventeenth century.

690-01. SCONCE.—Wrought-iron gilt sconce for two lights, with flowers and foliage ornament. Italian, seventeenth century.

277-04. FIRE-DOGS.—Wrought-iron, with cresset tops on each. Italian?

The Baroque and Rococo styles reached Italy through Germany and Switzerland, when its art was decadent and not in a condition to receive a powerful impetus and develop it as Germany did. Besides, the Italian ironworkers did not take so naturally to the heavy hammering and welding which the Rococo style especially demands. Thus we find that the Baroque and Rococo lost much of their vigour and energy in Italy, though some examples

are good, such as the screen to a chapel in Sant Ambrogio, Milan.

347-88. FLOWER STAND.—Wrought-iron, tripod form, with scrolls and foliage ornament. Bowl, copper. Modern Italian.

SPANISH IRONWORK.

Though the ironwork of Spain is abundant, and as good as any in Europe, comparatively little is known of its history. That of the mediæval period has not very strong characteristics, though there was a tendency to combine French and German elements. Late Gothic and Renaissance work in Spain is distinguished by the introduction of numerous armorial bearings.

Examples of twelfth and thirteenth century screens are to be met with in Romanesque buildings, and these are almost identical with the early English and French examples, as if influenced by the work of these countries. Little iron was used in the interior of buildings, until the fifteenth century, and this may be accounted for by the Oriental taste which pervaded Spain, and caused richer materials to be preferred. The most important works of the fifteenth century are the church screens, made chiefly of long vertical bars, with floriated crestings, as may be seen in Barcelona Cathedral.

Foliage decoration, in the form of long spiky leaves, is characteristic of Spanish ironwork of the fifteenth century, tall church candlesticks and other objects being thus ornamented.

Barcelona and Pamplona both had guilds of smiths from about the thirteenth century, and produced large quantities of ironwork, mostly for church purposes. Threaded lattice-work is not uncommon, some of it dating from the thirteenth or fourteenth century. It occurs in cloister gates and window screens, though the latter often have plain bars, and both lattice and bars were in use till comparatively recent times in the Peninsula, more especially in Portugal.

The tracery work produced by superimposing and piercing two or more plates of iron, which was so popular in France and the Low Countries was also introduced into Spain; but the work was not as fine as that of France.

Fireguards, tall candlesticks, wall-brackets, fire-dogs, and other objects were made in this style, as well as pul-

pits, which appear to have been as common in Spain as the fonteranes were in the Low Countries. A good example is the hexagonal pulpit, with its overhanging canopy, which is in San Gil at Burgos.

Some of the fine pierced iron flamboyant caskets still to be found are supposed to be Spanish; the general type consists of a rectangular box with slightly ridged lid, covered with parallel rows of tracery patterns, generally of two thicknesses of pierced iron. These boxes usually had rudely finished buttresses at the angles, and peculiar lock plates, somewhat similar to the French example in the Museum, No. 207-1896. Wooden cabinets were made at Vargas, in Toledo, in the sixteenth and seventeenth centuries. They were gilt and decorated inside, and the exterior was ornamented with pierced iron plates, bindings, locks, bolts, and handles, the design of which is arabesque, generally with figures of lions introduced. The pierced work itself is gilt, and laid over red leather, slightly countersunk into the wood.

Door knockers were in general use in Spain in the fifteenth and sixteenth centuries, and were of various designs, based on tracery and architectural forms, with a ring or a stirrup-shaped striker. Later knockers are ornamented with Moors' heads, lizards, dolphins, and dragons.

A fashion prevailed in Spain at this period of studding the doors with large nails, arranged in patterns. The later Gothic nails were shaped into foliated crosses, scallop shells, &c., measuring from two to six inches across, while the Renaissance nails had generally convex heads.

A rich effect, borrowed from the Moorish bronze-covered doors, was obtained by sheathing doors on both sides with iron plates stamped with various patterns, especially the lozenge, gilded and fastened down with copper nails. An example in Tarragona Cathedral is said to date from the thirteenth century.

Spanish locks and keys are not remarkable, though the work is sometimes rich. As in France, master keys were used in palaces of the King and the nobility, but they possess no great artistic merit.

Damascening, or the inlaying of iron or steel with gold and silver was practised by the Moors, and in the thirteenth century mention is made of numerous steel objects inlaid with gold. Many of the small damascened objects in collections, such as purse mounts, scissors, scissor cases, cutlery, &c., are Spanish.

The parts of Spain still held by the Moors were celebrated for weapons, but decorated armour does not appear to have been much made in Spain, at least after the fifteenth century. Even most of the suits of the first half of that century, preserved in Spain at the present day, are French or Italian.

Though Spain produced little armour, Spanish swords and other weapons were in high repute, especially those of Toledo. Spanish arquebuses were much thought of in the sixteenth century, and were largely exported. Cannon were used for the first time in Europe on Spanish soil, early in the fourteenth century, and later on guns were cast in various Spanish towns, it being recorded that one was made for Henry VIII. at a cost of eighteen pounds ten shillings.

The Renaissance found Spain rich and prosperous, and gave rise to a rapid development of one of the most distinctive styles of the country known as the "Plateresque," from its ornament, which as first was so delicate as to be considered equal to the work of the "platero" or silver-smith.

The ironwork of this period is very rich, and comprises much figure work, and is also remarkable for the frequent use of spindled balusters, with mouldings in hammered iron, sometimes embellished with foliage carved out of the solid. The best work seems to have been produced in the fifteenth and early sixteenth centuries, though magnificent iron screens were made as late as the final expulsion of the Moors in 1609. The cathedrals of Spain abound with screens of these times, some of them forty feet high, generally composed of spindled balusters and elaborate crestings, and often bearing the name of the maker.

With the close of the sixteenth century the grandeur and wealth of Spain declined, and the "Plateresque" style was slowly changing into the "Baroque," and though much ironwork was made in the former style it was inferior to the sixteenth century work. In the seventeenth century iron was extensively used for domestic purposes, such as gates to courtyards, window balconies, and garden railings. Weather vanes and finials, in the form of crosses, or of small pennons surmounted by a cross, were commonly used during the sixteenth and seventeenth centuries, also iron structures for bells and for wells in courtyards, but none are of rich work or fine design.

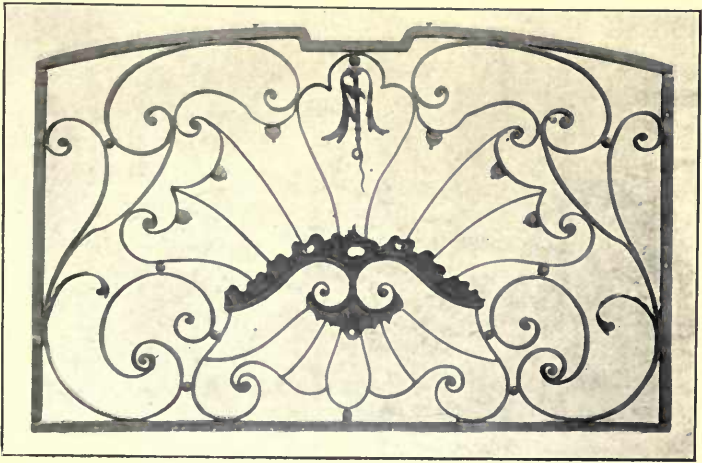
When the Baroque and Rococo styles passed into Spain French elegance and simplicity were not appreciated, and the Spaniards adopted the worst features of those styles. The country had now declined from its high position, and the great palaces were falling into ruin, and thus there are not many works in iron of either Baroque or Rococo style in Spain; what exists has a peculiar native character, with neither the grace nor principles of design of the French work.

There are no examples of the older Spanish ironwork in the Museum, but there are a few later ones, mostly of the eighteenth century.

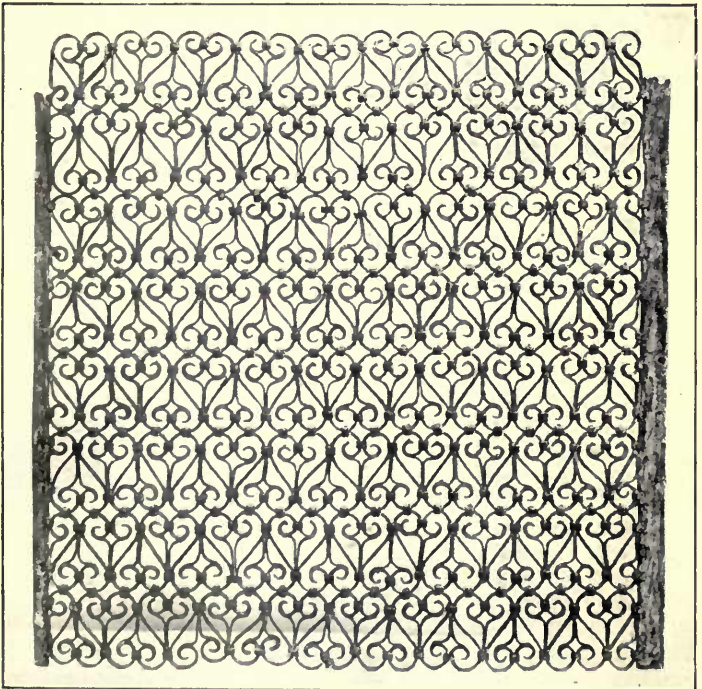
- 302-90. STILETTO.—Steel, with ivory and brass handle, the sheath in imitation of a knife. Spanish, eighteenth century.
- 747-91. KNIFE AND FORK.—Steel, inlaid with brass, the handle of chased brass and mother-of-pearl. Spanish, seventeenth century.
- 227-99. TONGS.—Steel, engraved and polished, combined with a knife and “strike-a-light.” Spanish, eighteenth century.
- 228-99. KNIFE.—Steel, perforated blade, handle brass. Spanish, eighteenth century.
- 229-99. TOOL.—Steel, consisting of gun pick, turnscrew, hammer, &c. Spanish, eighteenth century.
- 230-99. STRIKE-A-LIGHT.—Steel, in the form of two birds, engraved and polished. Spanish, eighteenth century.
- 231-99. STRIKE-A-LIGHT.—Steel, in the form of two animals, to which is attached a tinder box. Spanish, eighteenth century.
- 232-99. STILETTO.—Steel, with carved brass handle. Spanish, eighteenth century.
- 233-99. SCISSORS.—Engraved steel, dated 1764. Spanish.
- 234-99. CLASP KNIFE.—Steel blade, pierced, handle pierced brass. Spanish, eighteenth century.

235-99. HAMMER.—Cut and burnished steel head, handle wood. Spanish, eighteenth century.

652-03. STILETTO.—Steel, inlaid with silver and silver gilt. Probably Spanish, eighteenth century.



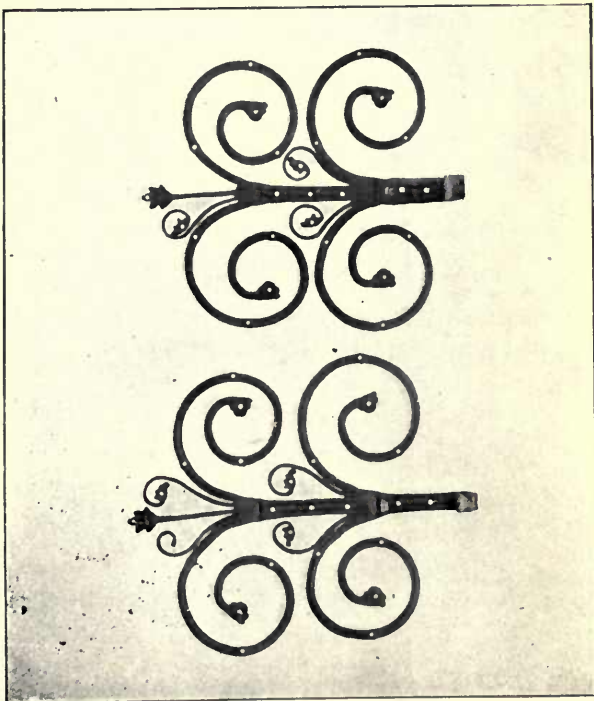
PANEL.
289-93.



GRILLE.
604-02.



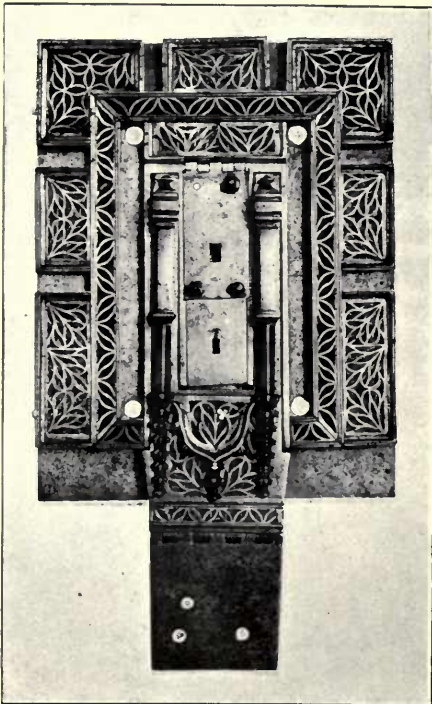
Door. 205-96.



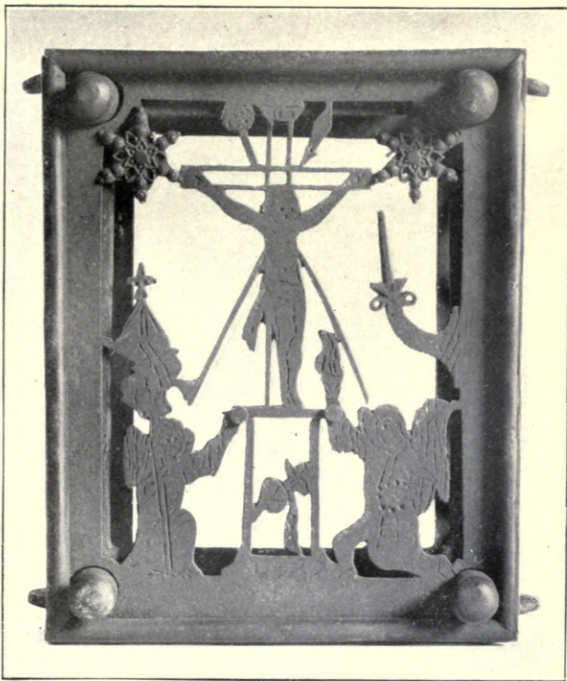
HINGES. 165-96.



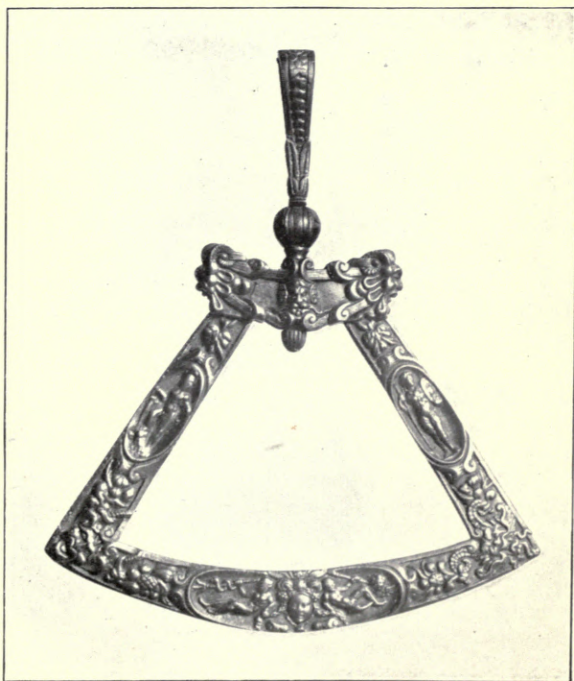
COFFER.
192-96.



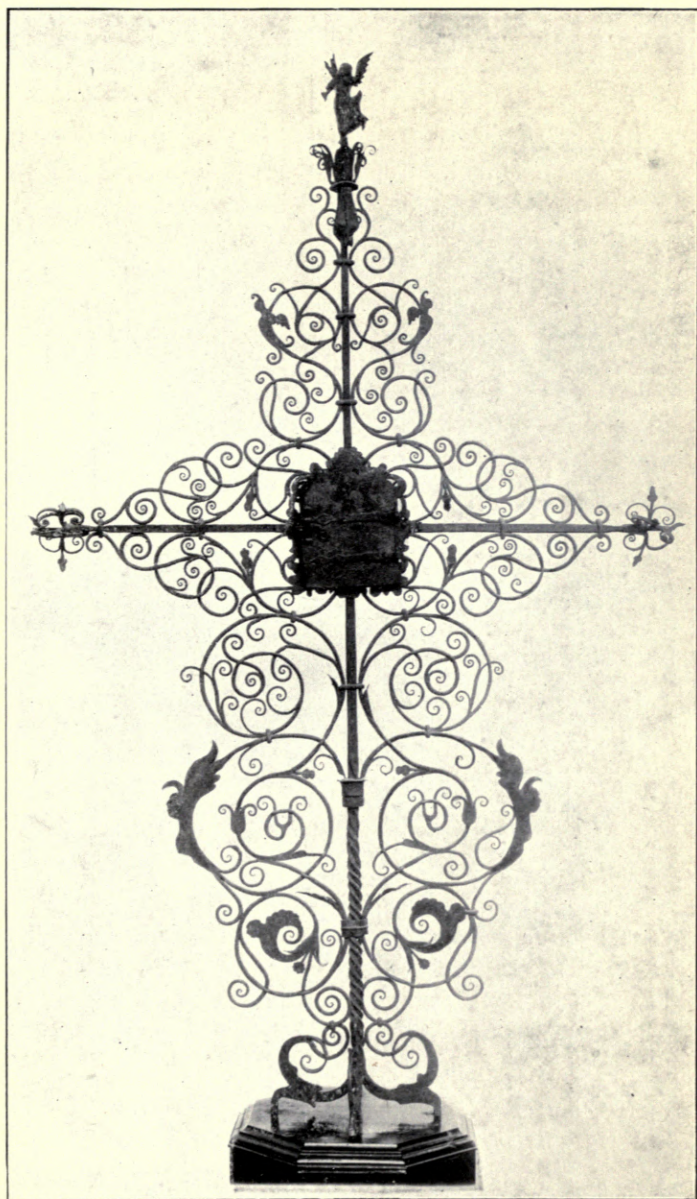
LOCK.
14-78.



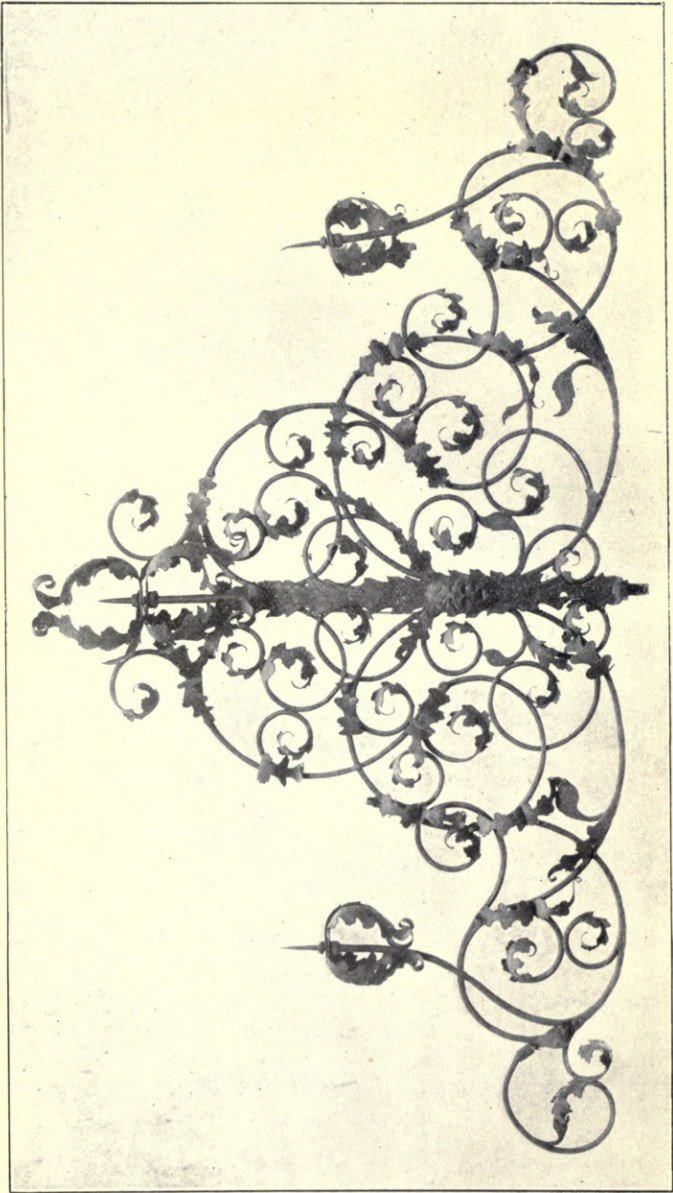
446-83. GRILLE.



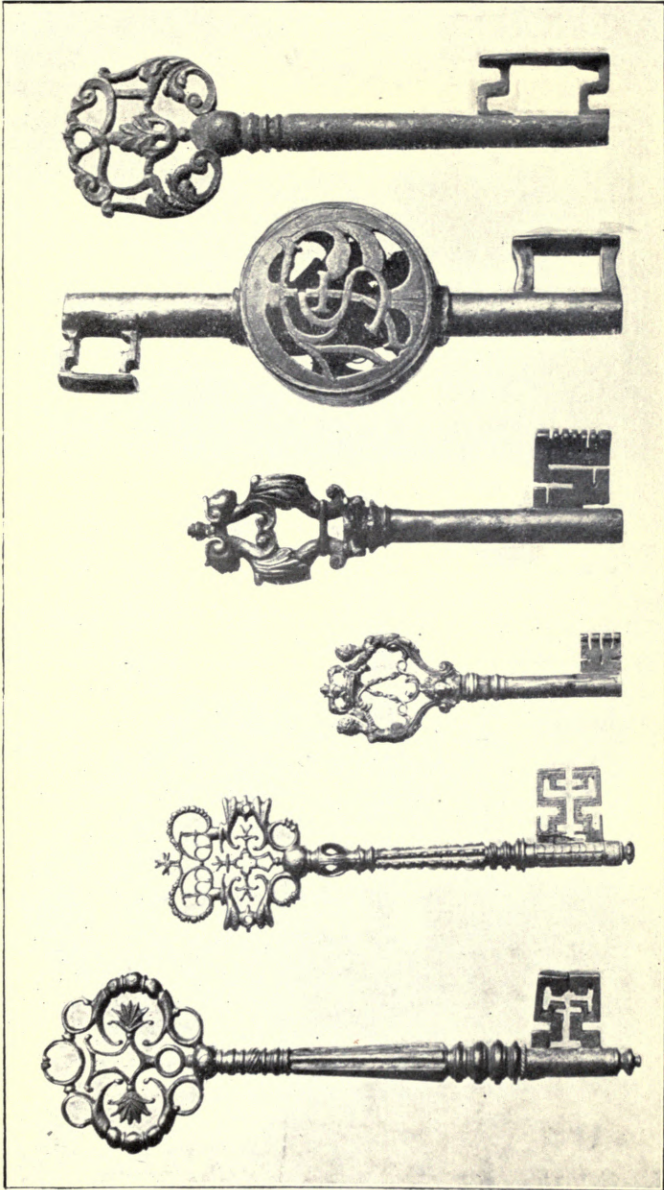
530-92. PURSE MOUNT.



GRAVE CROSS.
723A-83.



OVERDOOR.
No. 265.



KEYS.

367-96.

289-95.

229-96.

207-99.

135-99.

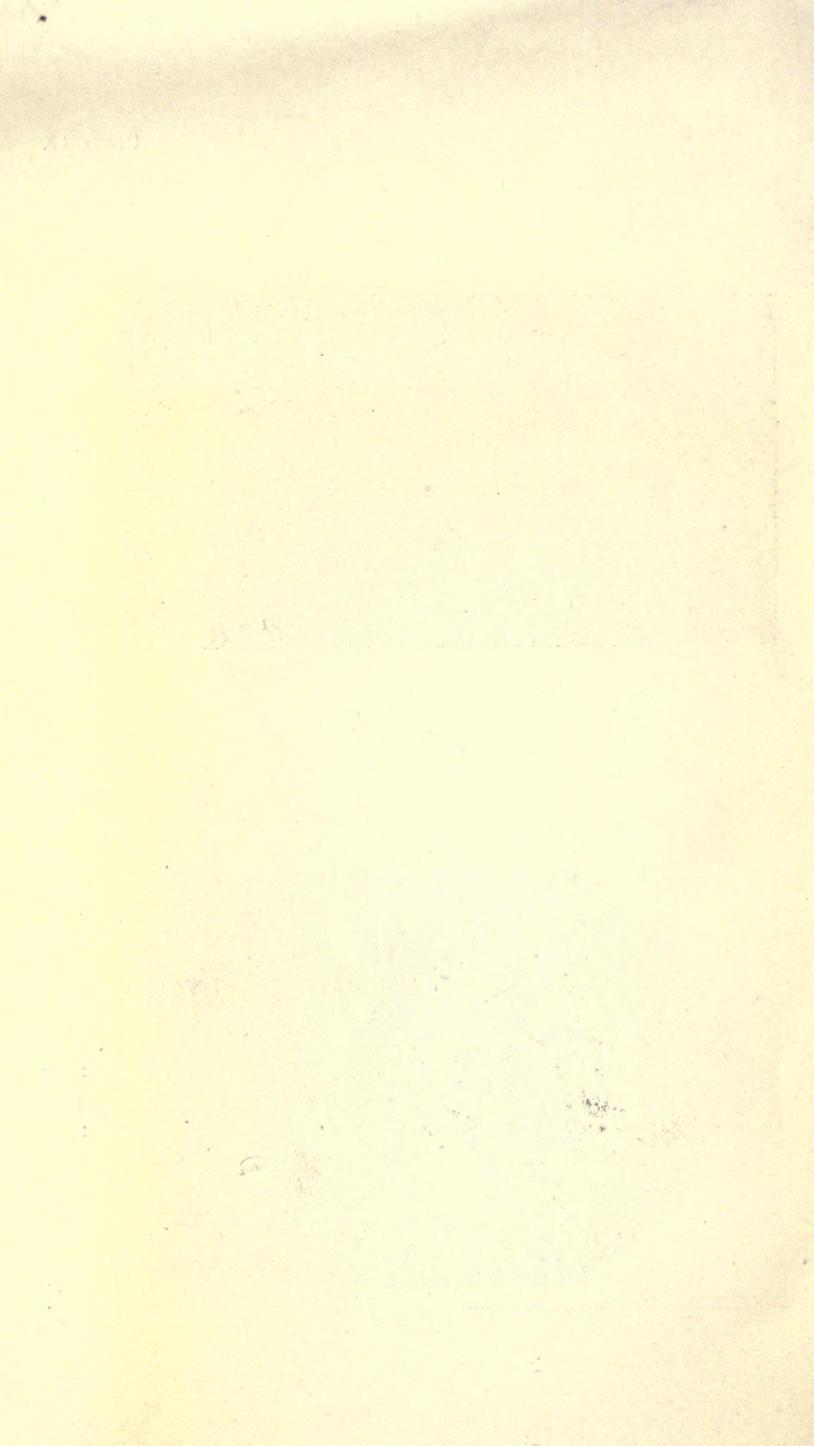
231-96.



KNOCKER.
643-92.



FIRE BACK.
564-10.



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